

Numbers

1 to 100

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-1 (number)

-1	
-1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	-1, minus one, negative one
Arabic	- ١
Chinese numeral	负一, 负弍, 负壹
Bengali	ঠ
Binary (byte)	S&M: 10000001 ₂ 2sC: 11111111 ₂
Hex (byte)	S&M: 0x101 ₈ 2sC: 0xFF ₈

In mathematics, **-1** is the additive inverse of 1, that is, the number that when added to 1 gives the additive identity element, 0. It is the negative integer greater than negative two (-2) and less than 0.

Negative one has some similar but slightly different properties to positive one.^[1]

Negative one bears relation to Euler's identity since $e^{i\pi} = -1$.

In computer science, **-1** is a common initial value for integers and is also used to show that a variable contains no useful information.

Algebraic properties

Multiplying a number by -1 is equivalent to changing the sign on the number. This can be proved using the distributive law and the axiom that 1 is the multiplicative identity: for x real, we have

$$x + (-1) \cdot x = 1 \cdot x + (-1) \cdot x = (1 + (-1)) \cdot x = 0 \cdot x = 0$$

where we used the fact that any real x times 0 equals 0, implied by cancellation from the equation

$$0 \cdot x = (0 + 0) \cdot x = 0 \cdot x + 0 \cdot x$$

In other words,

$$x + (-1) \cdot x = 0$$

so $(-1) \cdot x$ is the arithmetic inverse of x , or $-x$.

Square of -1

The square of -1 , i.e. -1 multiplied by -1 , equals 1. As a consequence, a product of negative real numbers is positive.

For an algebraic proof of this result, start with the equation

$$0 = -1 \cdot 0 = -1 \cdot [1 + (-1)]$$

The first equality follows from the above result. The second follows from the definition of -1 as additive inverse of 1: it is precisely that number that when added to 1 gives 0. Now, using the distributive law, we see that

The second equality follows from the fact that 1 is a multiplicative identity. But now adding 1 to both sides of this last equation implies

$$(-1) \cdot (-1) = 1$$

The above arguments hold in any ring, a concept of abstract algebra generalizing integers and real numbers.

Square roots of -1

The complex number i satisfies $i^2 = -1$, and as such can be considered as a square root of -1 . The only other complex number x satisfying the equation $x^2 = -1$ is $-i$. In the algebra of quaternions, containing the complex plane, the equation $x^2 = -1$ has an infinity of solutions.^[2]

Exponentiation to negative integers

Exponentiation of a non-zero real number can be extended to negative integers. We make the definition that $x^{-1} = 1/x$, meaning that we define raising a number to the power -1 to have the same effect as taking its reciprocal. This definition then extended to negative integers preserves the exponential law $x^a x^b = x^{(a + b)}$ for a, b non-zero real numbers.

Exponentiation to negative integers can be extended to invertible elements of a ring, by defining x^{-1} as the multiplicative inverse of x .

Computer representation

There are a variety of ways that -1 (and negative numbers in general) can be represented in computer systems, the most common being as two's complement of their positive form. Since this representation could also represent a positive integer in standard binary representation, a programmer must be careful not to confuse the two. Negative one in two's complement could be mistaken for the positive integer $2^n - 1$, where n is the number of digits in the representation (that is, the number of bits in the data type). For example, 1111111_2 (binary) and FF_{16} (hex) each represents -1 in two's complement, but represents 255 in standard numeric representation.

See also

- Signed zero

References

- [1] Mathematical analysis and applications (<http://books.google.com/books?id=Xrh89dLWZqEC>) By Jayant V. Deshpande, ISBN 1842651897
- [2] <http://mathforum.org/library/drmath/view/58251.html>

0 (number)

0	
−1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	0, zero, "oh" (pronounced /'oʊ/), nought, naught, nil.
Ordinal	0th, zeroth, noughth
Factorization	()
Divisors	all numbers
Roman numeral	N/A
Arabic	٠, 0
Bengali	০
Devanāgarī	०
Chinese	〇, 零
Japanese numeral	〇, 零
Khmer	០
Thai	๐
Binary	0
Octal	0
Duodecimal	0
Hexadecimal	0

Zero, written **0**, is both a number^[1] and the numerical digit used to represent that number in numerals. It plays a central role in mathematics as the additive identity of the integers, real numbers, and many other algebraic structures. As a digit, 0 is used as a placeholder in place value systems. In the English language, 0 may be called **zero**, **nought** or (US) **naught** (both pronounced /'nɔ:t/), **nil**, or "**o**". Informal or slang terms for zero include **zilch** and **zip**.^[2] *Ought* or *aught* (both pronounced /'ɔ:t/), have also been used.^[3]

As a number

0 is the integer immediately preceding 1. In most systems, 0 was identified before the idea of negative things that go lower than zero was accepted. Zero is an even number,^[4] because it is divisible by 2. 0 is neither positive nor negative. By some definitions 0 is also a natural number, and then the only natural number not to be positive. Zero is a number which quantifies a count or an amount of null size.

The value, or *number*, zero is not the same as the *digit* zero, used in numeral systems using positional notation. Successive positions of digits have higher weights, so inside a numeral the digit zero is used to skip a position and give appropriate weights to the preceding and following digits. A zero digit is not always necessary in a positional number system, for example, in the number 02. In some instances, a leading zero may be used to distinguish a number.

As a year label

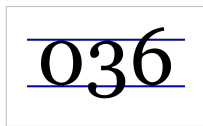
In the BC calendar era, the year 1 BC is the first year before AD 1; no room is reserved for a year zero. By contrast, in astronomical year numbering, the year 1 BC is numbered 0, the year 2 BC is numbered -1 , and so on.^[5]

Names

In 976 the Persian encyclopedist Muhammad ibn Ahmad al-Khwarizmi, in his "Keys of the Sciences", remarked that if, in a calculation, no number appears in the place of tens, a little circle should be used "to keep the rows". This circle the Arabs called *sifr* (empty). That was the earliest mention of the name *sifr* that eventually became *zero*.^[6]

Italian *zefiro* already meant "west wind" from Latin and Greek *zephyrus*; this may have influenced the spelling when transcribing Arabic *ṣifr*.^[7] The Italian mathematician Fibonacci (c.1170–1250), who grew up in North Africa and is credited with introducing the decimal system to Europe, used the term *zephyrum*. This became *zefiro* in Italian, which was contracted to *zero* in Venetian.

As the decimal zero and its new mathematics spread from the Arab world to Europe in the Middle Ages, words derived from *ṣifr* and *zephyrus* came to refer to calculation, as well as to privileged knowledge and secret codes. According to Ifrah, "in thirteenth-century Paris, a 'worthless fellow' was called a '... cifre en algorisme', i.e., an 'arithmetical nothing'.^[7] From *ṣifr* also came French *chiffre* = "digit", "figure", "number", *chiffre* = "to calculate or compute", *chiffre* = "encrypted". Today, the word in Arabic is still *ṣifr*, and cognates of *ṣifr* are common in the languages of Europe and southwest Asia.



The modern numerical digit 0 is usually written as a circle or ellipse. Traditionally, many print typefaces made the capital letter O more rounded than the narrower, elliptical digit 0.^[8]

Typewriters originally made no distinction in shape between O and 0; some models did not even have a separate key for the digit 0. The distinction came into prominence on modern character displays.^[8]

A slashed zero can be used to distinguish the number from the letter. The digit 0 with a dot in the centre seems to have originated as an option on IBM 3270 displays and has continued with the some modern computer typefaces such as Andalé Mono. One variation uses a short vertical bar instead of the dot. Some fonts designed for use with computers made one of the capital-O–digit-0 pair more rounded and the other more angular (closer to a rectangle). A further distinction is made in German car number plates by slitting open the digit 0 on the upper right side. Sometimes the digit 0 is used either exclusively, or not at all, to avoid confusion altogether.

History

Early history

By the middle of the 2nd millennium BC, the Babylonian mathematics had a sophisticated sexagesimal positional numeral system. The lack of a positional value (or zero) was indicated by a *space* between sexagesimal numerals. By 300 BC, a punctuation symbol (two slanted wedges) was co-opted as a placeholder in the same Babylonian system. In a tablet unearthed at Kish (dating from about 700 BC), the scribe Bêl-bân-aplu wrote his zeros with three hooks, rather than two slanted wedges.^[9]

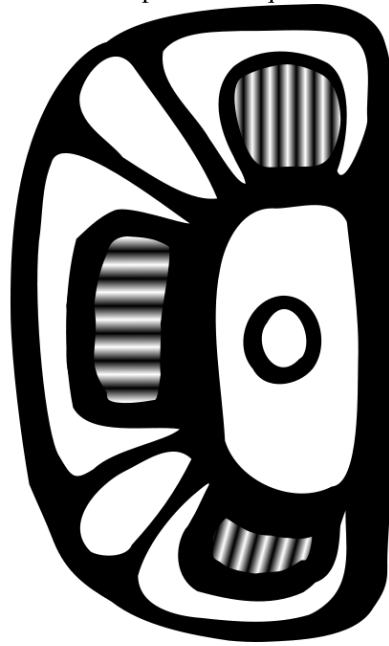
The Babylonian placeholder was not a true zero because it was not used alone. Nor was it used at the end of a number. Thus numbers like 2 and 120 (2×60), 3 and 180 (3×60), 4 and 240 (4×60), looked the same because the larger numbers lacked a final sexagesimal placeholder. Only context could differentiate them.

Records show that the ancient Greeks seemed unsure about the status of zero as a number. They asked themselves, "How can nothing be something?", leading to philosophical and, by the Medieval period, religious arguments about the nature and existence of zero and the vacuum. The paradoxes of Zeno of Elea depend in large part on the uncertain interpretation of zero.

The concept of zero as a number and not merely a symbol for separation is attributed to India where by the 9th century AD practical calculations were carried out using zero, which was treated like any other number, even in case of division.^{[10] [11]} The Indian scholar Pingala (circa 5th-2nd century BC) used binary numbers in the form of short and long syllables (the latter equal in length to two short syllables), making it similar to Morse code.^{[12] [13]} He and his contemporary Indian scholars used the Sanskrit word *śūnya* to refer to zero or *void*.

History of zero

The Mesoamerican Long Count calendar developed in south-central Mexico and Central America required the use of zero as a place-holder within its vigesimal (base-20) positional numeral system. Many different glyphs, including this partial quatrefoil—



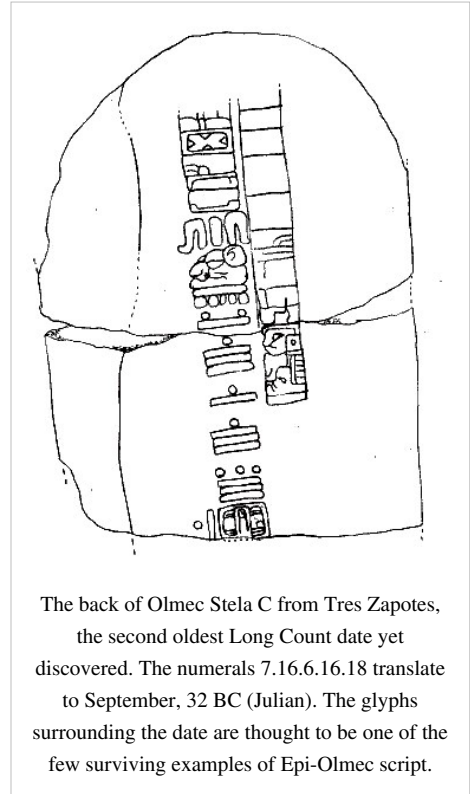
—were used as a zero symbol for these Long Count dates, the earliest of which (on Stela 2 at Chiapa de Corzo, Chiapas) has a date of 36 BC.^[14] Since the eight earliest Long Count dates appear outside the Maya homeland,^[15] it is assumed that the use of zero in the Americas predated the Maya and was possibly the invention of the Olmecs. Many of the earliest Long Count dates were found within the Olmec heartland, although the Olmec civilization ended by the 4th century BC, several centuries before the earliest known Long Count dates.

Although zero became an integral part of Maya numerals, it did not influence Old World numeral systems.

Quipu, a knotted cord device, used in the Inca Empire and its predecessor societies in the Andean region to record accounting and other digital data, is encoded in a base ten positional system. Zero is represented by the absence of a knot in the appropriate position.

The use of a blank on a counting board to represent 0 dated back in India to 4th century BC.^[16]

In China, counting rods were used for decimal calculation since the 4th century BC including the use of blank spaces. Chinese mathematicians understood negative numbers and zero, some mathematicians used 無入, 空, 口 for the latter, until Gautama Siddha introduced the symbol 0.^{[17] [18]} *The Nine Chapters on the Mathematical Art*, which was mainly composed in the 1st century AD, stated "[when subtracting] subtract same signed numbers, add differently signed numbers, subtract a positive number from zero to make a negative number, and subtract a negative



The back of Olmec Stela C from Tres Zapotes, the second oldest Long Count date yet discovered. The numerals 7.16.6.16.18 translate to September, 32 BC (Julian). The glyphs surrounding the date are thought to be one of the few surviving examples of Epi-Olmec script.

number from zero to make a positive number."^[19]

By 130 AD, Ptolemy, influenced by Hipparchus and the Babylonians, was using a symbol for zero (a small circle with a long overbar) within a sexagesimal numeral system otherwise using alphabetic Greek numerals. Because it was used alone, not just as a placeholder, this Hellenistic zero was perhaps the first documented use of a *number* zero in the Old World. However, the positions were usually limited to the fractional part of a number (called minutes, seconds, thirds, fourths, etc.)—they were not used for the integral part of a number. In later Byzantine manuscripts of Ptolemy's *Syntaxis Mathematica* (also known as the *Almagest*), the Hellenistic zero had morphed into the Greek letter omicron (otherwise meaning 70).

Another zero was used in tables alongside Roman numerals by 525 (first known use by Dionysius Exiguus), but as a word, *nulla* meaning "nothing", not as a symbol. When division produced zero as a remainder, *nihil*, also meaning "nothing", was used. These medieval zeros were used by all future medieval computists (calculators of Easter). The initial "N" was used as a zero symbol in a table of Roman numerals by Bede or his colleague around 725.

In 498 AD, Indian mathematician and astronomer Aryabhata stated that "Sthanam sthanam dasa gunam" or place to place in ten times in value, which is the origin of the modern decimal-based place value notation.^[20]

The oldest known text to use a decimal place-value system, including a zero, is the Jain text from India entitled the *Lokavibhāga*, dated 458 AD. This text uses Sanskrit numeral words for the digits, with words such as the Sanskrit word for *void* for zero.^[21] The first known use of special glyphs for the decimal digits that includes the indubitable appearance of a symbol for the digit zero, a small circle, appears on a stone inscription found at the Chaturbhuj Temple at Gwalior in India, dated 876 AD.^{[22] [23]} There are many documents on copper plates, with the same small *o* in them, dated back as far as the sixth century AD, but their authenticity may be doubted.^[9]

The Hindu-Arabic numerals and the positional number system were introduced around 500 AD, and in 825 AD, it was introduced by a Persian scientist, Khwarizmi,^[6] in his book on arithmetic. This book synthesized Greek and Hindu knowledge and also contained his own fundamental contribution to mathematics and science including an explanation of the use of zero.

It was only centuries later, in the 12th century, that the Arabic numeral system was introduced to the Western world through Latin translations of his *Arithmetic*.

Rules of Brahmagupta

The rules governing the use of zero appeared for the first time in Brahmagupta's book *Brahmasphuṭa Siddhanta* (*The Opening of the Universe*),^[24] written in 628 AD. Here Brahmagupta considers not only zero, but negative numbers, and the algebraic rules for the elementary operations of arithmetic with such numbers. In some instances, his rules differ from the modern standard. Here are the rules of Brahmagupta:^[24]

- The sum of zero and a negative number is negative.
- The sum of zero and a positive number is positive.
- The sum of zero and zero is zero.
- The sum of a positive and a negative is their difference; or, if their absolute values are equal, zero.
- A positive or negative number when divided by zero is a fraction with the zero as denominator.
- Zero divided by a negative or positive number is either zero or is expressed as a fraction with zero as numerator and the finite quantity as denominator.
- Zero divided by zero is zero.

In saying zero divided by zero is zero, Brahmagupta differs from the modern position. Mathematicians normally do not assign a value to this, whereas computers and calculators sometimes assign NaN, which means "not a number." Moreover, non-zero positive or negative numbers when divided by zero are either assigned no value, or a value of unsigned infinity, positive infinity, or negative infinity. Once again, these assignments are not numbers, and are associated more with computer science than pure mathematics, where in most contexts no assignment is done.

Zero as a decimal digit

Positional notation without the use of zero (using an empty space in tabular arrangements, or the word *kha* "emptiness") is known to have been in use in India from the 6th century. The earliest certain use of zero as a *decimal* positional digit dates to the 5th century mention in the text Lokavibhaga. The glyph for the zero digit was written in the shape of a dot, and consequently called *bindu* ("dot"). The dot had been used in Greece during earlier ciphered numeral periods.

The Hindu-Arabic numeral system (base 10) reached Europe in the 11th century, via the Iberian Peninsula through Spanish Muslims, the Moors, together with knowledge of astronomy and instruments like the astrolabe, first imported by Gerbert of Aurillac. For this reason, the numerals came to be known in Europe as "Arabic numerals". The Italian mathematician Fibonacci or Leonardo of Pisa was instrumental in bringing the system into European mathematics in 1202, stating:

After my father's appointment by his homeland as state official in the customs house of Bugia for the Pisan merchants who thronged to it, he took charge; and in view of its future usefulness and convenience, had me in my boyhood come to him and there wanted me to devote myself to and be instructed in the study of calculation for some days. There, following my introduction, as a consequence of marvelous instruction in the art, to the nine digits of the Hindus, the knowledge of the art very much appealed to me before all others, and for it I realized that all its aspects were studied in Egypt, Syria, Greece, Sicily, and Provence, with their varying methods; and at these places thereafter, while on business. I pursued my study in depth and learned the give-and-take of disputation. But all this even, and the algorism, as well as the art of Pythagoras, I considered as almost a mistake in respect to the method of the Hindus (Modus Indorum). Therefore, embracing more stringently that method of the Hindus, and taking stricter pains in its study, while adding certain things from my own understanding and inserting also certain things from the niceties of Euclid's geometric art. I have striven to compose this book in its entirety as understandably as I could, dividing it into fifteen chapters. Almost everything which I have introduced I have displayed with exact proof, in order that those further seeking this knowledge, with its pre-eminent method, might be instructed, and further, in order that the Latin people might not be discovered to be without it, as they have been up to now. If I have perchance omitted anything more or less proper or necessary, I beg indulgence, since there is no one who is blameless and utterly provident in all things. The nine Indian figures are: 9 8 7 6 5 4 3 2 1. With these nine figures, and with the sign 0 ... any number may be written.^{[25] [26]}

Here Leonardo of Pisa uses the phrase "sign 0", indicating it is like a sign to do operations like addition or multiplication. From the 13th century, manuals on calculation (adding, multiplying, extracting roots, etc.) became common in Europe where they were called *algorismus* after the Persian mathematician Khwarizmi. The most popular was written by Johannes de Sacrobosco, about 1235 and was one of the earliest scientific books to be *printed* in 1488. Until the late 15th century, Hindu-Arabic numerals seem to have predominated among mathematicians, while merchants preferred to use the Roman numerals. In the 16th century, they became commonly used in Europe.

Etymology

The word "**zero**" came via French *zéro* from Venetian *zero*, which (together with *cipher*) came via Italian *zefiro* from Arabic *صفر*, *ṣafira* = "it was empty", *ṣifr* = "zero", "nothing".^[27]

In mathematics

Elementary algebra

The number 0 is the smallest non-negative integer. The natural number following 0 is 1 and no natural number precedes 0. The number 0 may or may not be considered a natural number, but it is a whole number and hence a rational number and a real number (as well as an algebraic number and a complex number). Zero is, while a purely real number, also a pure imaginary number because it lies on both the real and imaginary axes on the complex plane.^[28]

The number 0 is neither positive nor negative and appears in the middle of a number line. It is neither a prime number nor a composite number. It cannot be prime because it has an infinite number of factors and cannot be composite because it cannot be expressed by multiplying prime numbers (0 must always be one of the factors).^[29] Zero is, however, even (see parity of zero).

The following are some basic (elementary) rules for dealing with the number 0. These rules apply for any real or complex number x , unless otherwise stated.

- Addition: $x + 0 = 0 + x = x$. That is, 0 is an identity element (or neutral element) with respect to addition.
- Subtraction: $x - 0 = x$ and $0 - x = -x$.
- Multiplication: $x \cdot 0 = 0 \cdot x = 0$.
- Division: $\frac{0}{x} = 0$, for nonzero x . But $\frac{x}{0}$ is undefined, because 0 has no multiplicative inverse (no real number multiplied by 0 produces 1), a consequence of the previous rule; see division by zero.
- Exponentiation: $x^0 = \frac{x}{x} = 1$, except that the case $x = 0$ may be left undefined in some contexts; see Zero to the zero power. For all positive real x , $0^x = 0$.

The expression $\frac{0}{0}$, which may be obtained in an attempt to determine the limit of an expression of the form $\frac{f(x)}{g(x)}$ as a result of applying the lim operator independently to both operands of the fraction, is a so-called "indeterminate form". That does not simply mean that the limit sought is necessarily undefined; rather, it means that the limit of $\frac{f(x)}{g(x)}$, if it exists, must be found by another method, such as l'Hôpital's rule.

The sum of 0 numbers is 0, and the product of 0 numbers is 1. The factorial 0! evaluates to 1.

Other branches of mathematics

- In set theory, 0 is the cardinality of the empty set: if one does not have any apples, then one has 0 apples. In fact, in certain axiomatic developments of mathematics from set theory, 0 is *defined* to be the empty set. When this is done, the empty set is the Von Neumann cardinal assignment for a set with no elements, which is the empty set. The cardinality function, applied to the empty set, returns the empty set as a value, thereby assigning it 0 elements.
- Also in set theory, 0 is the lowest ordinal number, corresponding to the empty set viewed as a well-ordered set.
- In propositional logic, 0 may be used to denote the truth value false.
- In abstract algebra, 0 is commonly used to denote a zero element, which is a neutral element for addition (if defined on the structure under consideration) and an absorbing element for multiplication (if defined).
- In lattice theory, 0 may denote the bottom element of a bounded lattice.
- In category theory, 0 is sometimes used to denote an initial object of a category.
- In recursion theory, 0 can be used to denote the Turing degree of the partial computable functions.

Related mathematical terms

- A zero of a function f is a point x in the domain of the function such that $f(x) = 0$. When there are finitely many zeros these are called the roots of the function. See also zero (complex analysis) for zeros of a holomorphic function.
- The zero function (or zero map) on a domain D is the constant function with 0 as its only possible output value, i.e., the function f defined by $f(x) = 0$ for all x in D . A particular zero function is a zero morphism in category theory; e.g., a zero map is the identity in the additive group of functions. The determinant on non-invertible square matrices is a zero map.
- Several branches of mathematics have zero elements, which generalise either the property $0 + x = x$, or the property $0 \times x = 0$, or both

In science

Physics

The value zero plays a special role for many physical quantities. For some quantities, the zero level is naturally distinguished from all other levels, whereas for others it is more or less arbitrarily chosen. For example, on the Kelvin temperature scale, zero is the coldest possible temperature (negative temperatures exist but are not actually colder), whereas on the Celsius scale, zero is arbitrarily defined to be at the freezing point of water. Measuring sound intensity in decibels or phons, the zero level is arbitrarily set at a reference value—for example, at a value for the threshold of hearing. In physics, the zero-point energy is the lowest possible energy that a quantum mechanical physical system may possess and is the energy of the ground state of the system.

Chemistry

Zero has been proposed as the atomic number of the theoretical element tetra-neutron. It has been shown that a cluster of four neutrons may be stable enough to be considered an atom in its own right. This would create an element with no protons and no charge on its nucleus.

As early as 1926, Professor Andreas von Antropoff coined the term neutronium for a conjectured form of matter made up of neutrons with no protons, which he placed as the chemical element of atomic number zero at the head of his new version of the periodic table. It was subsequently placed as a noble gas in the middle of several spiral representations of the periodic system for classifying the chemical elements.

In computer science

The most common practice throughout human history has been to start counting at one. Nevertheless, in computer science, zero is often used as the starting point. For example, in most programming languages, the elements of an array are numbered starting from 0 by default. For an array of n items the sequence of array indices runs from 0 to $n-1$. This permits the array user to have the base address of the array and simply add the index to the base address to find the exact location of the data without having to do further subtraction.

In databases, it is possible for a field not to have a value. It is then said to have a null value. For numeric fields it is not the value zero. For text fields this is not blank nor the empty string. The presence of null values leads to three-valued logic. No longer is a condition either *true* or *false*, but it can be *undetermined*. Any computation including a null value delivers a null result. Asking for all records with value 0 or value not equal 0 will not yield all records, since the records with value null are excluded.

A null pointer is a pointer in a computer program that does not point to any object or function. In C, the integer constant 0 is converted into the null pointer at compile time when it appears in a pointer context, and so 0 is a standard way to refer to the null pointer in code. However, the internal representation of the null pointer may be any

bit pattern (possibly different values for different data types).

In mathematics $-0 = 0 = +0$, both -0 and $+0$ represent exactly the same number, i.e., there is no "negative zero" distinct from zero. In some signed number representations (but not the two's complement representation used to represent integers in most computers today) and most floating point number representations, zero has two distinct representations, one grouping it with the positive numbers and one with the negatives; this latter representation is known as negative zero.

In other fields

- In some countries and some company phone networks, dialing 0 on a telephone places a call for operator assistance.
- DVDs that can be played in any region are sometimes referred to as being "region 0"
- Roulette wheels usually feature a "0" space (and sometimes also a "00" space), whose presence is ignored when calculating payoffs (thereby allowing the house to win in the long run).
- In Formula One, if the reigning World Champion no longer competes in Formula One in the year following their victory in the title race, 0 is given to one of the drivers of the team that the reigning champion won the title with. This happened in 1993 and 1994, with Damon Hill driving car 0, due to the reigning World Champion (Nigel Mansell and Alain Prost respectively) not competing in the championship.

See also

- Grammatical number
- Number theory
- Peano axioms
- Zeroth (Zero as an ordinal number)

Notes

- [1] Russel, Bertrand (1942). *Principles of mathematics* (<http://books.google.com/books?id=63ooitcP2osC>) (2 ed.). Forgotten Books. p. 125. ISBN 1-440-05416-9. ., Chapter 14, page 125 (<http://books.google.com/books?id=63ooitcP2osC&pg=PA125>)
- [2] Catherine Soanes, ed (2001) (Hardback). *The Oxford Dictionary, Thesaurus and Wordpower Guide*. Maurice Waite, Sara Hawker (2nd ed.). New York, United States: Oxford University Press. ISBN 978-0-19-860373-3.
- [3] *ought* at etymonline.com (<http://www.etymonline.com/index.php?search=ought&searchmode=none>)
- [4] Lemma B.2.2, *The integer 0 is even and is not odd*, in Penner, Robert C. (1999). *Discrete Mathematics: Proof Techniques and Mathematical Structures*. World Scientific. pp. 34. ISBN 9810240880.
- [5] Steel, Duncan (2000). *Marking time: the epic quest to invent the perfect calendar*. John Wiley & Sons. p. 113. ISBN 0-471-29827-1. "In the B.C./A.D. scheme there is no year zero. After 31 December 1 BC came AD 1 January 1. ... If you object to that no-year-zero scheme, then don't use it: use the astronomer's counting scheme, with negative year numbers."
- [6] Will Durant, *The Story of Civilization*, Volume 4, **The Age of Faith**, pp. 241. (<http://www.archive.org/details/ageoffaithahisto012288mbp>)
- [7] Georges Ifrah. *The Universal History of Numbers: From Prehistory to the Invention of the Computer*. Wiley (2000). ISBN 0-471-39340-1.
- [8] R. W. Bemer. "Towards standards for handwritten zero and oh: much ado about nothing (and a letter), or a partial dossier on distinguishing between handwritten zero and oh". *Communications of the ACM*, Volume 10, Issue 8 (August 1967), pp. 513–518.
- [9] Kaplan, Robert. (2000). *The Nothing That Is: A Natural History of Zero*. Oxford: Oxford University Press.
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- [11] *Britannica Concise Encyclopedia* (2007), entry *algebra*
- [12] Binary Numbers in Ancient India (<http://home.ica.net/~roymanju/Binary.htm>)
- [13] Math for Poets and Drummers (<http://www.sju.edu/~rhall/Rhythms/Poets/arcadia.pdf>) (pdf, 145KB)
- [14] No long count date actually using the number 0 has been found before the 3rd century AD, but since the long count system would make no sense without some placeholder, and since Mesoamerican glyphs do not typically leave empty spaces, these earlier dates are taken as indirect evidence that the concept of 0 already existed at the time.
- [15] Diehl, p. 186
- [16] Robert Temple, *The Genius of China, A place for zero*; ISBN 1-85375-292-4


- [17] 「零」字考與陳雲林會長來台 (<http://www.nownews.com/2008/11/03/142-2359146.htm>)
- [18] 對中國傳統筆算之探討 (http://www.math.sinica.edu.tw/math_media/pdf.php?m_file=ZDI2My8yNjMwNg==)
- [19] The statement in Chinese, found in Chapter 8 of *The Nine Chapters on the Mathematical Art* is 正負術曰：同名相除，異名相益，正無入負之，負無入正之。其異名相除，同名相益，正無入正之，負無入負之。The word 無入 used here, for which *zero* is the standard translation by mathematical historians, literally means: *no entry*. The full Chinese text can be found at [wikisource:zh:九章算術](https://zh.wikipedia.org/wiki/%E4%B9%A7%E7%AE%97).
- [20] *Aryabhatiya of Aryabhata*, translated by Walter Eugene Clark.
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- [23] Ifrah, Georges (2000), p. 400.
- [24] *Algebra with Arithmetic of Brahmagupta and Bhaskara* (<http://books.google.com/books?id=A3cAAAAAMAAJ&printsec=frontcover&dq=brahmagupta>), translated to English by Henry Thomas Colebrooke, London 1817
- [25] Sigler, L., *Fibonacci's Liber Abaci*. English translation, Springer, 2003.
- [26] Grimm, R.E., "The Autobiography of Leonardo Pisano", *Fibonacci Quarterly* **11**/1 (February 1973), pp. 99–104.
- [27] Merriam Webster online Dictionary (<http://www.merriam-webster.com/dictionary/zero>)
- [28] "What is an Imaginary Number?" (<http://www.wisegeek.com/what-is-an-imaginary-number.htm>) . .
- [29] Reid, Constance (1992). *From zero to infinity: what makes numbers interesting* (<http://books.google.com/?id=d3NFIvrTk4sC&pg=PA23&dq=zero+neither+prime+nor+composite&q=zero+neither+prime+nor+composite>) (4th ed.). Mathematical Association of America. p. 23. ISBN 9780883855058. .

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- Isaac Asimov article "nothing counts" in "Asimov on Numbers" Pocket Books, 1978

External links

- A History of Zero (<http://www-gap.dcs.st-and.ac.uk/~history/HistTopics/Zero.html>)
- Zero Saga (<http://home.ubalt.edu/ntsbarsh/zero/ZERO.HTM>)
- The Discovery of the Zero (<http://www.neo-tech.com/zero/part6.html>)
- The History of Algebra (<http://www.ucs.louisiana.edu/~sxw8045/history.htm>)
- Edsger W. Dijkstra: Why numbering should start at zero (<http://www.cs.utexas.edu/users/EWD/ewd08xx/EWD831.PDF>), 192 (PDF of a handwritten manuscript)
- "My Hero Zero" (<http://www.schoolhouserock.tv/My.html>) Educational children's song in Schoolhouse Rock!
- Zero (<http://www.bbc.co.uk/programmes/p004y254>) on In Our Time at the BBC. (listen now (http://www.bbc.co.uk/iplayer/console/p004y254/In_Our_Time_Zero))
-  Texts on Wikisource:
 - "Zero". *Encyclopedia Americana*. 1920.

pnb:رفص

1 (number)

1	
-1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	1 one
Ordinal	1st first
Numeral system	unary
Factorization	1
Divisors	1
Greek numeral	α'
Roman numeral	I
Roman numeral (Unicode)	Ⅰ, ⅰ
Persian	۱ - کی
Arabic	١
Ge'ez	፩
Bengali	১
Chinese numeral	一, 弍, 壹
Korean	일, 하나
Devanāgarī	१
Tamil	௧
Hebrew	א (alef)
Khmer	១
Thai	๑
prefixes	mono- /haplo- (from Greek) uni- (from Latin)
Binary	1
Octal	1
Duodecimal	1
Hexadecimal	1

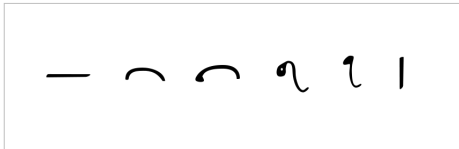
1 (**one**, pronounced /'wʌn/, also UK: /'wɒn/) is a number, numeral, and the name of the glyph representing that number. It represents a single entity, the unit of counting or measurement. For example, a line segment of "unit length" is a line segment of length 1.

As a number

One, sometimes referred to as **unity**, is the integer before two and after zero. One is the first non-zero number in the natural numbers as well as the first odd number in the natural numbers.

Any number multiplied by one is the number, as one is the identity for multiplication. As a result, one is its own factorial, its own square, its own cube, and so on... One is also the empty product as any number multiplied by one is itself, which produces the same result as multiplying by no numbers at all.

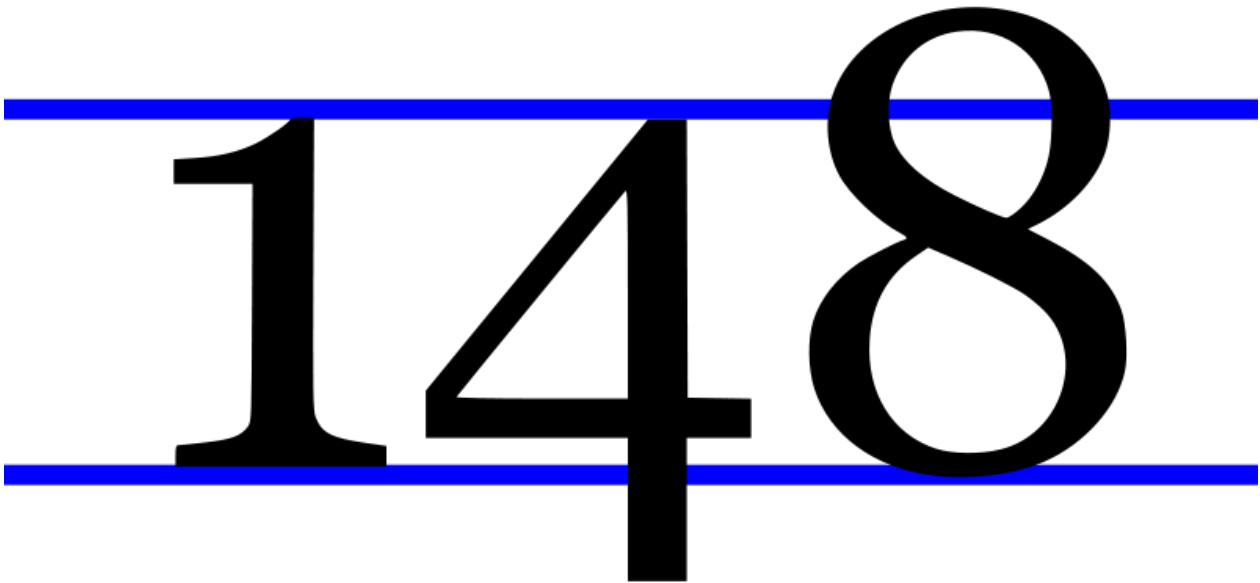
As a digit



The glyph used today in the Western world to represent the number 1, a vertical line, often with a serif at the top and sometimes a short horizontal line at the bottom, traces its roots back to the Indians, who wrote 1 as a horizontal line, much like the Chinese script “一”(Yi).

The Gupta wrote it as a curved line, and the Nagari sometimes added a small circle on the left (rotated a quarter turn to the right, this 9-look-alike became the present day numeral 1 in the Gujarati and Punjabi scripts). The Nepali also rotated it to the right, but kept the circle small.^[1] This eventually became the top serif in the modern numeral, but the occasional short horizontal line at the bottom probably originates from similarity with the Roman numeral I. In some European countries (e.g. Germany) the little serif at the top is sometimes extended into a long upstroke, sometimes as long as the vertical line, which can lead to confusion with the glyph for seven in other countries. Where the 1 is written with a long upstroke, the number 7 has a horizontal stroke through the vertical line.

While the shape of the 1 character has an ascender in most modern typefaces, in typefaces with text figures the character usually is of x-height, as, for example, in



Many older typewriters do not have a separate symbol for '1' and use the lowercase 'l' instead. It is possible to find cases when the uppercase 'J' is used, while it may be for decorative purposes.

Mathematics

Mathematically, 1 is

- in arithmetic (algebra) and calculus, the natural number that follows 0 and precedes 2, the multiplicative identity of the integers, real numbers and complex numbers;
- more generally, in abstract algebra, the multiplicative identity ("unity"), usually of a ring.

One cannot be used as the base of a positional numeral system; sometimes tallying is referred to as "base 1", since only one mark (the tally) is needed, but this is not a positional notation.

The logarithms base 1 are undefined, since the function 1^x always equals 1 and so has no unique inverse.

In the real number system, 1 can be represented in two ways as a recurring decimal: as 1.000... and as 0.999... (*q.v.*).

Formalizations of the natural numbers have their own representations of 1:

- in the Peano axioms, 1 is the successor of 0;
- in Principia Mathematica, 1 is defined as the set of all singletons (sets with one element);
- the Von Neumann cardinal assignment of natural numbers, 1 is defined as the set $\{0\}$.

In a multiplicative group or monoid, the identity element is sometimes denoted "1", but "e" (from the German *Einheit*, unity) is more traditional. However, "1" is especially common for the multiplicative identity of a ring, i.e. when an addition and "0" are also present. When such a ring has characteristic n not equal to 0, the element called 1 has the property that $n1 = 1n = 0$ (where this 0 is the additive identity of the ring). Important examples are general fields.

One is the first figurate number of every kind, such as triangular number, pentagonal number and centered hexagonal number to name just a few.

Because of the multiplicative identity, if $f(x)$ is a multiplicative function, then $f(1)$ must equal 1.

It is also the first and second numbers in the Fibonacci sequence, and is the first number in many mathematical sequences. As a matter of convention, Sloane's early *Handbook of Integer Sequences* added an initial 1 to any sequence that didn't already have it, and considered these initial 1's in its lexicographic ordering. Sloane's later *Encyclopedia of Integer Sequences* and its Web counterpart, the *On-Line Encyclopedia of Integer Sequences*, ignore initial ones in their lexicographic ordering of sequences, because such initial ones often correspond to trivial cases.

One is neither a prime number nor a composite number, but a unit, like -1 and, in the Gaussian integers, i and $-i$. The fundamental theorem of arithmetic guarantees unique factorization over the integers only up to units (e.g. $4 = 2^2 = (-1)^4 \times 1^{23} \times 2^2$).

The definition of a field requires that 1 must not be equal to 0. Thus, there are no fields of characteristic 1. Nevertheless, abstract algebra can consider the field with one element, which is not a singleton though, and is not a set at all.

One is the only positive integer divisible by exactly one positive integer (whereas prime numbers are divisible by exactly two positive integers, composite numbers are divisible by more than two positive integers, and zero is divisible by all positive integers). One was formerly considered prime by some mathematicians, using the definition that a prime is divisible only by one and itself. However, this complicates the fundamental theorem of arithmetic, so modern definitions exclude units. The last professional mathematician to publicly label 1 a prime number was Henri



The 24 hour tower clock in Venice, using J as a symbol for 1.

Lebesgue in 1899.

One is one of three possible values of the Möbius function: it takes the value one for square-free integers with an even number of distinct prime factors.

One is the only odd number in the range of Euler's totient function $\varphi(x)$, in the cases $x = 1$ and $x = 2$.

One is the only 1-perfect number (see multiply perfect number).

By definition, 1 is the magnitude or absolute value of a unit vector and a unit matrix (more usually called an *identity matrix*). Note that the term *unit matrix* is sometimes used to mean something quite different.

By definition, 1 is the probability of an event that is certain to occur.

One is the most common leading digit in many sets of data, a consequence of Benford's law.

The ancient Egyptians represented all fractions (with the exception of $2/3$ and $3/4$) in terms of sum of fractions with numerator 1 and distinct denominators. For example, $\frac{2}{5} = \frac{1}{3} + \frac{1}{15}$. Such representations are popularly known as

Egyptian Fractions or Unit Fractions.

The Generating Function which has all coefficients 1 is given by

$$\frac{1}{1-x} = 1 + x + x^2 + x^3 + \dots$$

This power series converges and has finite value if, and only if, $|x| < 1$.

Table of basic calculations

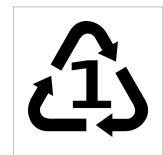
Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$1 \times x$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
$1 \div x$	1	0.5	$0.\overline{3}$	0.25	0.2	$0.1\overline{6}$	$0.14285\overline{7}$	0.125	$0.\overline{1}$	0.1	$0.\overline{09}$	$0.08\overline{3}$	$0.07692\overline{3}$	$0.071428\overline{5}$	$0.0\overline{6}$
$x \div 1$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1^x	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
x^1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

In technology

- The resin identification code used in recycling to identify polyethylene terephthalate.



In science

- The atomic number of hydrogen.

See also

- -1
- One (word)
- Root of unity

Notes

[1] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 392, Fig. 24.61

koi:1 (ötik) pnb:ا

2 (number)

2	
-1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Ordinal Number	2nd, 2d second
Numeral system	binary
Factorisation	prime
Gaussian integer factorisation	$(1 + i)(1 - i)$
Divisors	1, 2
Greek numeral	β'
Roman numeral	II
Roman numeral (Unicode)	Ⅱ, ⅱ
Arabic	٢
Ge'ez	፳
Bengali	২
Chinese numeral	二, 貳, 貳, 貳
Devanāgarī	२
Tamil	௨
Hebrew	ב (Bet)
Khmer	២
Korean	ㅇ
Thai	๒
prefixes	di- (from Greek) duo- bi- (from Latin) twi- (Old English)
Binary	10
Cardinal	2 two
Octal	2
Hexadecimal	2
Duodecimal	2
Place	

2 (two) (pronounced /ˈtuː/ (listen)) is a number, numeral, and glyph. It is the natural number following 1 and preceding 3.



In mathematics

Two has many properties in mathematics.^[1] An integer is called *even* if it is divisible by 2. For integers written in a numeral system based on an even number, such as decimal and hexadecimal, divisibility by 2 is easily tested by merely looking at the last digit. If it is even, then the whole number is even. In particular, when written in the decimal system, all multiples of 2 will end in 0, 2, 4, 6, or 8.

Two is the smallest and the first prime number, and the only even one^[2] (for this reason it is sometimes called "the oddest prime"^[3]). The next prime is three. Two and three are the only two consecutive prime numbers. 2 is the first Sophie Germain prime, the first factorial prime, the first Lucas prime, and the first Smarandache-Wellin prime. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$. It is also a Stern prime, a Pell number, the first Fibonacci prime, and a Markov number, appearing in infinitely many solutions to the Markov Diophantine equation involving odd-indexed Pell numbers.

It is the third Fibonacci number, and the third and fifth Perrin numbers.

Despite being a prime, two is also a highly composite number, because it has more divisors than the number one. The next highly composite number is four.

Vulgar fractions with 2 or 5 in the denominator do not yield infinite decimal expansions, as is the case with most primes, because 2 and 5 are factors of ten, the decimal base.

Two is the base of the simplest numeral system in which natural numbers can be written concisely, being the length of the number a logarithm of the value of the number (whereas in base 1 the length of the number is the value of the number itself); the binary system is used in computers.

For any number x :

$x+x = 2\cdot x$ addition to multiplication

$x\cdot x = x^2$ multiplication to exponentiation

$x^x = x \uparrow \uparrow 2$ exponentiation to tetration

Two also has the unique property that $2+2 = 2\cdot 2 = 2^2=2 \uparrow \uparrow 2=2 \uparrow \uparrow \uparrow 2$, and so on, no matter how high the operation is.

Two is the only number x such that the sum of the reciprocals of the powers of x equals itself. In symbols

$$\sum_{k=0}^{\infty} \frac{1}{2^k} = 1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \cdots = 2.$$

This comes from the fact that:

$$\sum_{k=0}^{\infty} \frac{1}{n^k} = 1 + \frac{1}{n-1} \quad \text{for all } n \in \mathbb{R} > 1.$$

Powers of two are central to the concept of Mersenne primes, and important to computer science. Two is the first Mersenne prime exponent.

Taking the square root of a number is such a common mathematical operation, that the spot on the root sign where the exponent would normally be written for cubic roots and other such roots, is left blank for square roots, as it is considered tacit.

The square root of two was the first known irrational number.

The smallest field has two elements.

In the set-theoretical construction of the natural numbers, 2 is identified with the set $\{\{\emptyset\}, \emptyset\}$. This latter set is important in category theory: it is a subobject classifier in the category of sets.

Two is a primorial, as well as its own factorial. Two often occurs in numerical sequences, such as the Fibonacci number sequence, but not quite as often as one does. Two is also a Motzkin number, a Bell number, an all-Harshad number, a meandric number, a semi-meandric number, and an open meandric number.

Two is the number of n-Queens Problem solutions for n = 4. With one exception, all known solutions to Znam's problem start with 2.

Two also has the unique property such that

$$\sum_{k=0}^{n-1} 2^k = 2^n - 1$$

and also

$$\sum_{k=a}^{n-1} 2^k = 2^n - \sum_{k=0}^{a-1} 2^k - 1$$

for a not equal to zero

The number of domino tilings of a 2x2 checkerboard is 2.

For any polyhedron homeomorphic to a sphere, the Euler characteristic is

$$\chi = V - E + F = 2.$$

As of 2008, there are only two known Wieferich primes.

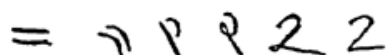
List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
2 × x	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	100	200	2000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2 ÷ x	2	1	0.6̄	0.5	0.4	0.3̄	0.285714̄	0.25	0.2̄	0.2	0.18̄	0.16̄	0.153846̄	0.142857̄	0.13̄
x ÷ 2	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5

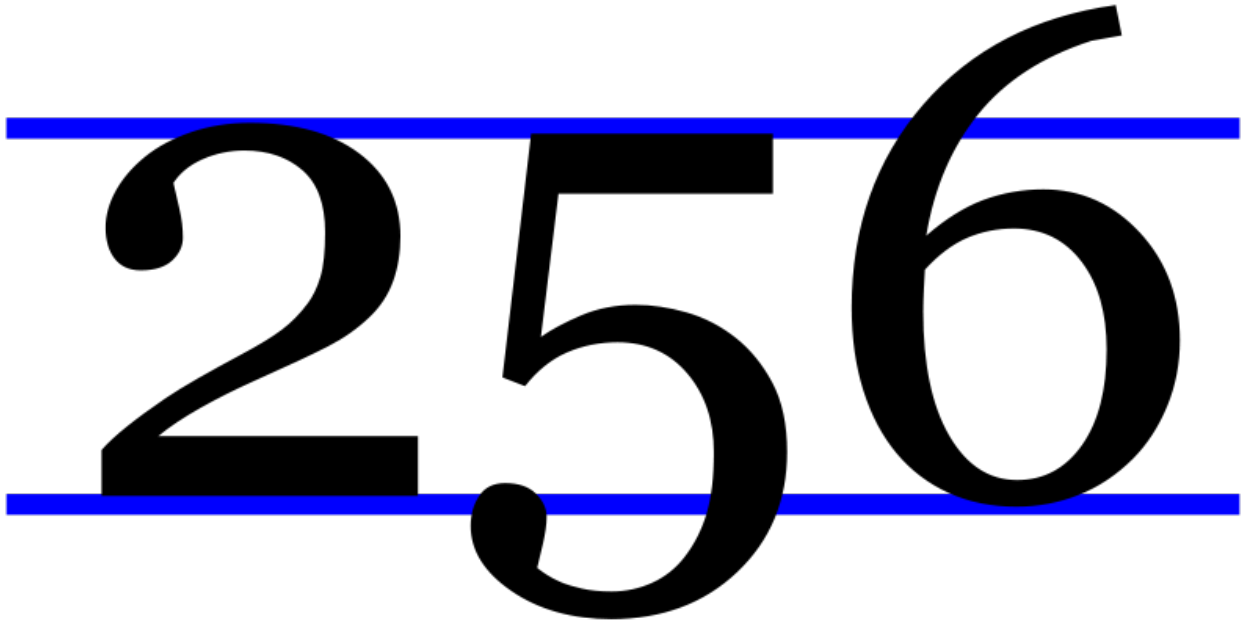
Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
2 ^x	2	4	8	16	32	64	128	256	512	1024	2048	4096	8192
x ²	1	4	9	16	25	36	49	64	81	100	121	144	169

Evolution of the glyph



The glyph we use today in the Western world to represent the number 2 traces its roots back to the Brahmin Indians, who wrote 2 as two horizontal lines (it is still written that way in modern Chinese and Japanese). The Gupta rotated the two lines 45 degrees, making them diagonal, and sometimes also made the top line shorter and made its bottom end curve towards the center of the bottom line. Apparently for speed, the Nagari started making the top line more like a curve and connecting to the bottom line. The Ghubar Arabs made the bottom line completely vertical, and now the glyph looked like a dotless closing question mark. Restoring the bottom line to its original horizontal position, but keeping the top line as a curve that connects to the bottom line leads to our modern glyph.^[4]

In fonts with text figures, 2 usually is of x-height, for example,



In science

- The number of polynucleotide strands in a DNA double helix.
- The first magic number.^[5]
- The atomic number of helium.
- Group **2** in the Periodic table of the elements consists of the alkaline earth metals whose usual valence is +2.
- Period **2** in the Periodic table consists of the eight elements lithium through neon.



Astronomy

- Messier object M2, a magnitude 6.5 globular cluster in the constellation Aquarius.
- The New General Catalogue object^[6] NGC 2, a magnitude 14.2 spiral galaxy in the constellation Pegasus
- The Saros number^[7] of the solar eclipse series which began on May 4, 2861 BC and ended on June 21, 1563 BC . The duration of Saros series 2 was 1298.1 years, and it contained 73 solar eclipses.
- The Saros number^[8] of the lunar eclipse series which began on February 21, 2541 BC and ended on April 22, 1225 BC. The duration of Saros series 2 was 1316.2 years, and it contained 74 lunar eclipses.
- The Roman numeral II stands for bright giant in the Yerkes spectral classification scheme.
- The Roman numeral II (usually) stands for the second-discovered satellite of a planet or minor planet (e.g. Pluto II or (87) Sylvia II Remus)
- A binary star is a stellar system consisting of two stars orbiting around their center of mass.

In technology

- The resin identification code used in recycling to identify high-density polyethylene.



In religion

The number 2 is important in Judaism, with one of the earliest reference being that God ordered Noah to put two of every animal in his ark (see Noah's Ark). Later on, the Ten Commandments were given in the form of two tablets (*Shnei Luchot HaBrit*).

The number also has ceremonial importance, such as the two candles that are traditionally kindled to usher in the Shabbat, recalling the two different ways Shabbat is referred to in the two times the Ten Commandments are recorded in the Torah. These two expressions are known in Hebrew as *רוכזו רומש* ("guard" and "remember"), as in "Guard the Shabbat day to sanctify it" (Deut. 5:12) and "Remember the Shabbat day to sanctify it" (Ex. 20:8) Two challahs (*lechem mishnah*) are placed on the table for each Shabbat meal and a blessing made over them, to commemorate the double portion of manna which fell in the desert every Friday to cover that day's meals and the Shabbat meals

In Jewish law, the testimony of two witnesses are required to verify and validate events, such as marriage, divorce, and a crime that warrants capital punishment

"Second-Day Yom Tov" (*Yom Tov Sheini Shebegaliyot*) is a rabbinical enactment that mandates a two-day celebration for each of the one-day Jewish festivals (i.e., the first and seventh day of Passover, the day of Shavuot, the first day of Sukkot, and the day of Shemini Atzeret) outside the land of Israel

Numerological significance

The most common philosophical dichotomy is perhaps the one of good and evil, but there are many others. See dualism for an overview. In Hegelian dialectic, the process of synthesis creates two perspectives from one.

Two (二, *èr*) is a good number in Chinese culture. There is a Chinese saying, "good things come in pairs". It is common to use double symbols in product brandnames, e.g. double happiness, double coin, double elephants etc. Cantonese people like the number two because it sounds the same as the word "easy" (易) in Cantonese. However, it is also used to identify people who act foolish, arrogant and so on.



The twos of all four suits in playing cards

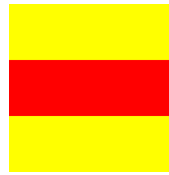
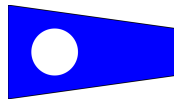
In Finland, two candles are lit on Independence Day. Putting them on the windowsill invokes the symbolical meaning of division, and thus independence.

In pre-1972 Indonesian and Malay orthography, 2 was shorthand for the reduplication that forms plurals: *orang* "person", *orang-orang* or *orang2* "people".

In North American educational systems, the number 2.00 denotes a grade-point average of "C," which in some colleges and universities is the minimum required for good academic standing at the undergraduate level.^[9]

In Astrology, Taurus is the second sign of the Zodiac.

In other fields



International maritime pennant for 2 International maritime signal flag for 2

Groups of two:

- Lists of pairs
 - list of twins
- The name of several fictional characters: *Number Two*.
- The position of the President of the Mess Committee at the Australian Defence Force Academy, commonly referred to as number 2, which is currently held by OCDT Dale Bogle “flamer”.
- The designation of the Trans-Canada Highway in most of the province of New Brunswick.
- U.S. Route 2, two separated highways in the northern tier of the United States, the western segment connecting Everett, Washington to St. Ignace, Michigan and the eastern route connecting Rouses Point, New York to Houlton, Maine.
- The lowest channel of television in the United States, Canada, Argentina and Mexico on which television signals are broadcast.
- In American football, a two-point conversion is a PAT where the ball crosses the goal line via run or pass. (In six-man football, however, the traditional PAT kick is worth two points, whereas a PAT via pass or run is only one point.)
- In Association football, the scoring of two goals by one individual in a single match is referred to as a brace, or pseudo hat-trick.

References

- [1] Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 41–44
- [2] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 31
- [3] John Horton Conway & Richard K. Guy, *The Book of Numbers*. New York: Springer (1996): 25. "Two is celebrated as the only even prime, which in some sense makes it the evenest prime of all."
- [4] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 393, Fig. 24.62
- [5] Xavier Borg, Engineer (2006-02-02). "Magic numbers derived from VPM nuclear model" (<http://www.blazelabs.com/magicnumbers.pdf>). Blaze Labs Research. . Retrieved 2007-03-24.
- [6] <http://www.ngcic.org/>
- [7] <http://sunearth.gsfc.nasa.gov/eclipse/SEsaros/SEsaros1-175.html>
- [8] <http://sunearth.gsfc.nasa.gov/eclipse/LEsaros/LEsaros1-175.html>
- [9] *For a typical example, see* the University of Oklahoma grading regulations (<http://admissions.ou.edu/graderegs.htm#retention>).

External links

koi:2 (кык) pnb:2

3 (number)

3	
-1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	3 three
Ordinal	3rd third
Numeral system	ternary
Factorization	prime
Divisors	1, 3
Roman numeral	III
Roman numeral (Unicode)	Ⅲ, ⅲ
Arabic	٣, 3
Ge'ez	፫
Bengali	৩
Chinese numeral	三, 貳, 叁
Devanāgarī	३
Japanese	三 三
Tamil	௩
Hebrew	ג (Gimel)
Khmer	៣
Thai	๓
prefixes	tri- (from Greek) tre-/ter- (from Latin)
Binary	11
Octal	3
Duodecimal	3
Hexadecimal	3

3 (three) is a number, numeral, and glyph. It is the natural number following 2 and preceding 4.



In mathematics

- Three is the first odd prime number,^[1] and the second smallest prime. It is both the first Fermat prime ($2^{2^n} + 1$) and the first Mersenne prime ($2^n - 1$), as well as the first lucky prime. However, it's the second Sophie Germain prime, the second Mersenne prime exponent, the second factorial prime ($2! + 1$), the second Lucas prime, the second Stern prime.
- Three is the first unique prime due to the properties of its reciprocal.
- Three is the aliquot sum of 4.
- Three is the third Heegner number.
- Three is the second triangular number and it is the only prime triangular number. Three is the only prime which is one less than a perfect square. Any other number which is $n^2 - 1$ for some integer n is not prime, since it is $(n - 1)(n + 1)$. This is true for 3 as well, but in its case one of the factors is 1.
- Three non-collinear points determine a plane and a circle.
- Three is the fifth Fibonacci number and the third that is unique. In the Perrin sequence, however, 3 is both the zeroth and third Perrin numbers.
- Three is the fourth open meandric number.
- Vulgar fractions with 3 in the denominator have a single digit repeating sequences in their decimal expansions, (.000..., .333..., .666...)
- A natural number is divisible by three if the sum of its digits in base 10 is divisible by 3. For example, the number 21 is divisible by three (3 times 7) and the sum of its digits is $2 + 1 = 3$. Because of this, the reverse of any number that is divisible by three (or indeed, any permutation of its digits) is also divisible by three. For instance, 1368 and its reverse 8631 are both divisible by three (and so are 1386, 3168, 3186, 3618, etc..). See also Divisibility rule. This works in base 10 and in any positional numeral system whose base divided by three leaves a remainder of one (bases 4, 7, 10, etc.).
- A triangle is the only figure which, if all endpoints have hinges, will never change its shape unless the sides themselves are bent.
- 3 is the smallest prime of a Mersenne prime power tower 3, 7,127,170141183460469231731687303715884105727. It is not known whether any more of the terms are prime.
- Three of the five regular polyhedra have triangular faces — the tetrahedron, the octahedron, and the icosahedron. Also, three of the five regular polyhedra have vertices where three faces meet — the tetrahedron, the hexahedron (cube), and the dodecahedron. Furthermore, only three different types of polygons comprise the faces of the five regular polyhedra — the triangle, the quadrilateral, and the pentagon.
- There are only three distinct 4×4 panmagic squares.
- Only three tetrahedral numbers are also perfect squares.

In numeral systems

It is frequently noted by historians of numbers that early counting systems often relied on the three-patterned concept of "One- Two- Many" to describe counting limits. In other words, in their own language equivalent way, early peoples had a word to describe the quantities of one and two, but any quantity beyond this point was simply denoted as "Many". As an extension to this insight, it can also be noted that early counting systems appear to have had limits at the numerals 2, 3, and 4. References to counting limits beyond these three indices do not appear to prevail as consistently in the historical record.

Base	Numeral system	
2	binary	11
3	ternary	10
over 3 (decimal, hexadecimal)		3

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$3 \times x$	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	150	300	3000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
$3 \div x$	3	1.5	1	0.75	0.6	0.5	0.428571	0.375	0.3	0.3	0.27	0.25	0.230769	0.2142857	0.2
$x \div 3$	0.3	0.6	1	1.3	1.6	2	2.3	2.6	3	3.3	3.6	4	4.3	4.6	5

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
3^x	3	9	27	81	243	729	2187	6561	19683	59049	177147	531441	1594323
x^3	1	8	27	64	125	216	343	512	729	1000	1331	1728	2197

Evolution of the glyph



Three is often the largest number written with as many lines as the number represents. The Romans tired of writing 4 as IIII, instead using IV, but to this day 3 is written as three lines in Roman and Chinese numerals. This was the way the Brahmin Indians wrote it, and the Gupta made the three lines more curved. The Nagari started rotating the lines clockwise and ending each line with a slight downward stroke on the right. Eventually they made these strokes connect with the lines below, and evolved it to a character that looks very much like a modern 3 with an extra stroke at the bottom. It was the Western Ghubar Arabs who finally eliminated the extra stroke and created our modern 3. (The "extra" stroke, however, was very important to the Eastern Arabs, and they made it much larger, while rotating the strokes above to lie along a horizontal axis, and to this day Eastern Arabs write a 3 that looks like a mirrored 7 with ridges on its top line): ٣^[2]

While the shape of the 3 character has an ascender in most modern typefaces, in typefaces with text figures the character usually has a descender, as, for example, in 036. In some French text-figure typefaces, though, it has an ascender instead of a descender.

A common variant of the digit 3 has a flat top, similar to the character 3 (ezh), sometimes used to prevent people from falsifying a 3 into an 8.

In science

Anatomy

- A human ear has three semicircular canals.
- A human middle ear has three ossicles.
- Most elbows consist of three bones, the only joint in the human body where three articulations are surrounded by one capsule.
- Humans perceive white light as the mixture of the three additive primary hues: red, green, and blue.

Anthropology

Georges Dumézil developed the Trifunctional Hypothesis which divides prehistoric Indo-European society into three classes: priests, warriors, and commoners.

Astronomy

- There are three main galaxy morphological classifications: Ellipticals. Spirals. Lenticulars. These classes are extended for finer distinctions of appearance and to encompass irregular galaxies.
- The Roman numeral III stands for giant star in the Yerkes spectral classification scheme.
- Earth is the third planet in its local Solar System.

Biology (specific and general)

- Genetic information is encoded in DNA and RNA using a triplet codon system.
- Hemimetabolous insects undergo gradual metamorphosis through three distinct stages: the egg, nymph, and the adult stage, or imago. There is no pupal stage. (Compare to holometabolism which has four stages and is less gradual).
- In paleontology, trilobites are named as such because their bodies are divided in three longitudinal lobes.

Chemistry

- Three is the atomic number of lithium.
- Atoms consist of three constituents: protons, neutrons, and electrons.

Physics

- The Standard Model of fundamental particles includes three generations of matter (fermions), encompassing the leptons (Generation I—electron; II—muon; III—tau; and their three corresponding neutrinos), and, in pairs of flavors, the quarks (Generation I—up quark & down quark; II—charm quark & strange quark; III—top quark & bottom quark). Thus each of the three generations contains four particles, and these are often shown aligned with four bosons (force-carrying particles) excluding hypothetical bosons such as the graviton and the Higgs boson.
 - A baryon (including protons and neutrons) consists of three quarks.
 - We perceive our universe to have three spatial dimensions.
-

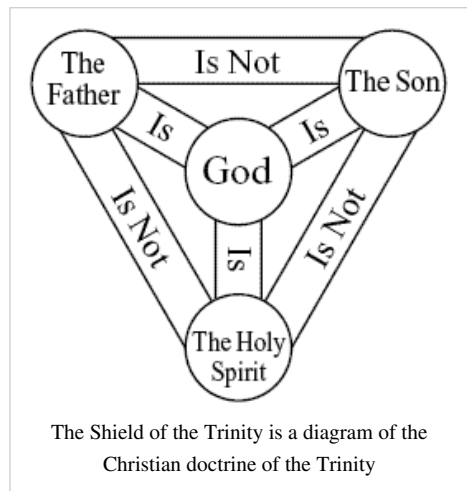
In religion and myth

Many world religions contain triple deities or concepts of trinity, including:

- the Christian Holy Trinity
- the Hindu Trimurti
- the Hindu Tridevi
- the Three Jewels of Buddhism
- the Three Pure Ones of Taoism
- the Triple Goddess of Wicca

Abrahamic religions

- There are three main Abrahamic religions: Islam, Christianity and Judaism.
- In Muslim devotional rites, certain formulas are repeated three times, and others thirty-three times.
- A devout **Muslim** tries to make a pilgrimage to all three holy cities in Islam: Mecca, Medina, and Jerusalem.
- * The Wise Men who visited Jesus after His birth left Him three gifts.
- King Solomon states in Ecclesiastes 4:12: "A three-ply cord is not easily severed." Examples of this concept of **three-ness** in Judaism are:
 - The three Patriarchs: Abraham, Isaac, and Jacob.
 - The Tanakh has 3 sections: Torah, Nevi'im, and Ketuvim.
 - There are three main divisions of Jews: *Kohen*, *Levi*, and *Israel* (Israelite).
 - Shimon Hatzaddik taught: "On three things the world stands: On Torah, on prayer, and on acts of kindness" (Pirkei Avoth 1:2). Rabban Shimon ben Gamliel taught: "The world continues to exist because of three things: justice, truth, and peace" (ibid. 1:18).
- The three Theological virtues referred to 1 Corinthians 13.
- In Roman Catholicism, a group of three martyrs, collectively known as Faith, Hope, and Charity (named after the Theological Virtues).
- Also in Roman Catholic doctrine, there are three realms of the afterlife: Heaven, Hell and Purgatory (Limbo is regarded as hypothetical).
- The three members of the Holy Family: Jesus, Mary, and Joseph.



In Hinduism

- The Trimurti: Brahma the Creator, Vishnu the Preserver, and Shiva the Destroyer.
- The three Gunas underlie action, in the Vedic system of knowledge.

In Buddhism

- The Triple Gem - Buddha, Dhamma (Buddha's teaching) and Sangha (the preachers of Dhamma).
- The Triple Bodhi (ways to understand the end of birth)- Budhu, Pasebudhu, Mahaarahath
- The Buddha has three bodies.
- Buddhism's three refuges are Trisharana- Buddhan sharanam gacchami, Dhammam sharanam gacchami, Sangham sharanam gacchami.

Other religions

- The Wiccan Rule of Three.
- The Triple Goddess: Maiden, Mother, Crone; the three fates.

In esoteric tradition

- The Theosophical Society has three conditions of membership.
- Gurdjieff's Three Centers and the Law of Three.

In philosophy

- The three Doshas (weaknesses) and their antidotes are the basis of Ayurvedic medicine in India.
- Philosophers such as Aquinas, Kant, Hegel, and C. S. Peirce have made threefold divisions, or trichotomies, which have been important in their work.
- Hegel's dialectic of Thesis + Antithesis = Synthesis creates three-ness from two-ness.

As a lucky or unlucky number

Three (三, formal writing: 叁, pinyin san1, Cantonese: saam1) is considered a good number in Chinese culture because it sounds like the word "alive" (生 pinyin sheng1, Cantonese: saang1), compared to four (四, pinyin: si4, Cantonese: sei1), which sounds like the word "death" (死 pinyin si3, Cantonese: sei2).

Counting to three is common in situations where a group of people wish to perform an action in synchrony: *Now, on the count of three, everybody pull!* Assuming the counter is proceeding at a uniform rate, the first two counts are necessary to establish the rate, but then everyone can predict when three" will come based on "one" and "two"; this is likely why three is used instead of some other number.

In Vietnam, there is a superstition that considers it bad luck to take a photo with three people in it; it is professed that the person in the middle will die soon.

There is another superstition that it is unlucky to take a third light, that is, to be the third person to light a cigarette from the same match or lighter. This superstition is sometimes asserted to have originated among soldiers in the trenches of the First World War when a sniper might see the first light, take aim on the second and fire on the third.

The phrase "Third time's the charm" refers to the superstition that after two failures in any endeavor, a third attempt is more likely to succeed. This is also sometimes seen in reverse, as in "third man [to do something, presumably forbidden] gets caught".

Luck, especially bad luck, is often said to "come in threes".^[3]

In technology

- The resin identification code used in recycling to identify polyvinyl chloride.
- On most telephone keypads, the "3" key is also associated with the letters "D", "E", and "F".



- The glyph "3" may be used as a substitute for yogh (ȝ, ȝ) or Greek xi (Ξ, ξ) or ze (Ʒ, Ʒ) when those characters are not available.
- Three is the minimum odd number of voting components for simple easy redundancy checks by direct comparison.



- Three is approximately pi (actually closer to 3.14159) when doing rapid engineering guesses or estimates. The same is true if one wants a rough-and-ready estimate of e , which is actually approximately 2.7183.
- "3" is the DVD region code for many East Asian countries, except for Japan (which is Region 2) and China (which is Region 6).
- 3 is a brand of 3G mobile phones.
- The television VHF channel most often used for hooking up VCRs and/or video game systems. If it is otherwise occupied by a local broadcaster, then channel 4 is used instead.
- Some may use "3" as an alternate to the letter "E", often in jest or to prevent search engines from reading their messages.

In music

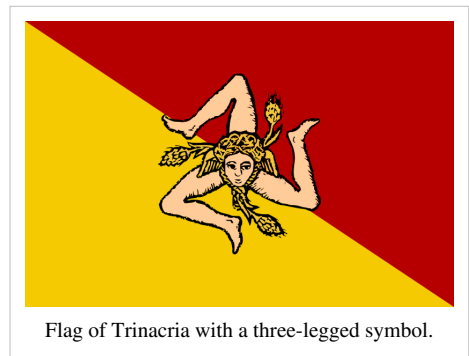
- In music, the Roman numeral iii is the mediant scale degree, chord, or diatonic function, when distinguished III = major and iii = minor.
- Three is the number of performers in a trio.
- There are 3 notes in a triad, the basic form of any chord.
- The tritone, which divides the octave into 3 equally spaced notes (root, tritone, octave).
- In Indian classical music, three equal repetitions of a rhythmic pattern is a common device called tihai.
- 3rd Bridge, an extended technique on string instruments.

In geography

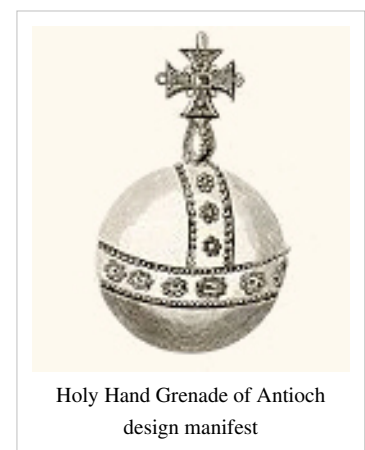
- Several cities are known as Tripoli from Greek for "three cities".
- Sicilia was known as Trinacria for its triangle-shape.
- Three Mile Island is known for a nuclear accident.
- Several cities are also known as Triad Winston-Salem, High Point, and Greensboro NC

In filmography

- *Three* is a 1969 film starring Charlotte Rampling and Sam Waterston.
- *Three* is a 1965 Yugoslav film directed by Aleksandar Petrović.
- *Three* is a 2002 Asian horror movie collaboration.
- *Three* is a 2010 German film.
- *Thr3e* is a 2007 film adaptation of the novel of the same name by Ted Dekker.
- *Three*, also known as *Survival Island* is a 2006 film starring Billy Zane and Kelly Brook.
- There is a 1977 film titled *3 Women*.
- In both the film *The Craft* and the fantasy television series *Charmed*, the "power of three" has been used as part of wiccan incantations.
- "Three, no more, no less" is ordained as "the number thou shalt count, and the number of the counting" preceding use of the Holy Hand Grenade of Antioch in the 1975 film *Monty Python and the Holy Grail*.^[4]



Flag of Trinacria with a three-legged symbol.



Holy Hand Grenade of Antioch design manifest

In sports

- In bowling, 3 strikes in a row is called a turkey.
- In ice hockey, a game consists of 3 periods of twenty minutes each.
- In rugby union, 3 is the jersey number of the starting tighthead prop. It is also the number of points received for a successful drop goal or penalty kick.
- In rugby league, 3 is the jersey number of the starting right centre threequarter.
- In baseball, 3 is the number of strikes before the batter is out and the number of outs per side per inning. It also represents the first baseman's position. 3 is the retired number of Baseball Hall of Fame players Babe Ruth, Joe Medwick, Bill Terry, and Harmon Killebrew.
- In basketball, a shot made from behind the three-point arc is worth 3 points. 3 is used to represent the small forward position. In addition, a potential "three-point play" exists when a player is fouled while successfully completing a two-point field goal, thus being awarded one additional free-throw attempt.
- Is the number of the famous NASCAR stock car that Dale Earnhardt drove for nearly 20 years before his death in 2001. In IROC, Hélio Castroneves had his car number changed from his standard 3 (which he drives in the Indy Racing League) to number 03.
- A hat-trick in sports is associated with succeeding at anything three times in three consecutive attempts, as well as when any player in ice hockey or soccer scores three goals in one game (whether or not in succession). In Cricket, if a bowler takes 3 wickets in a row it is called a hat trick.
- In volleyball, is the number of sets needed to be won to win the whole match.
- In both American and Canadian football, the number of points received for a successful field goal. (An exception is in six-man football where the field goal is worth four points.)
- In Canadian football, the last down before a team loses possession on downs. Usually, a team faced with a third down will punt (if far from the opponent's goal line) or attempt a field goal (if relatively close).
- An triathlon consists of three events: swimming, bicycling, and running.
- In football, number 3 is assigned in most cases to the left defender or fullback.
- On March 24, 2006 the number 3 became the second number retired by the New Jersey Devils in honor of defenseman Ken Daneyko.

In games

The game rock-paper-scissors involves three hand shapes.

In literature

- 3 is the number of witches in William Shakespeare's *Macbeth*.
- 3 is the number of words or phrases in a Tripartite motto.
- 3 is the number of novels or films in a trilogy and the number of interconnected works of art in a triptych.
- *Thr3e* is a 2003 suspense novel written by Thriller author Ted Dekker.
- Dante Alighieri's *Divine Comedy* has three parts each of thirty-three *cantos* (plus one introductory *canto* totaling 100). It was written in *terza rima*, a combination of tercets. All of this is an allusion to the Christian Trinity.
- The number three recurs several times in Tolkien's *The Lord of the Rings* and also in *The Silmarillion*. Three Rings of Power were given to the Elves. There are three Silmarils. The unions of the Eldar (Elves) and the Edain (Men) were three in number: Beren and Lúthien, Tuor and Idril, and Aragorn and Arwen.
- Three Blind Mice is a children's nursery rhyme and musical round.
- *The Three Musketeers* is a novel by Alexandre Dumas, and is part of a trilogy.
- *Three Sisters* is a play by Anton Chekhov.
- A recurring theme in Arthur C. Clarke's *Rama* series is the observation that "the Ramans do everything in threes."
- The Three Bears – children's classic literature

- The Three Little Pigs – children's classic literature.
- 3 is the number of wishes normally granted in most fairy tales and stories. Likewise, the protagonist in most stories faces 3 conflicts, whether mental or physical before his or her great triumph.
- "Threes" is a poem by Carl Sandburg.
- In many Czech folktales, a great beast of some sort will, if bound in some manner, usually be bound by three chains, hooks, ropes, etc., and a menial task must be repeated three times to free it.
- *The Day of the Triffids*, 1951 by John Wyndham. Genetically modified plants with three legs take over the earth.
- The number three is a recurring theme in the Series of Unfortunate Events: there are three Baudelaire orphans, three Snicket orphans, three Quagmire orphans, etc.

Original scholarly articles/reviews about the three

- "The Number Three in The American Culture". A selected chapter found in the book entitled *Every Man His Way* (1967–68) by Alan Dundes.
- "People in Threes Going Up in Smoke and Other Triplicities in Russian Literature and Culture" (Fall 2005, Rocky Mountain Review) by Lee B. Croft.
- "Buckland's Third Revolution" (1997–98) and "Three Wise Men" (1984–85) posters by Herb O. Buckland.

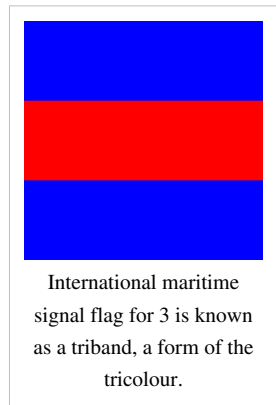
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- [1] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 39
- [2] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 393, Fig. 24.63
- [3] See " bad (<http://www.encyclopedia.com/doc/1O214-bad.html>)" in the *Oxford Dictionary of Phrase and Fable*, 2006, via Encyclopedia.com.
- [4] John Cleese, Graham Chapman, Terry Gilliam, Eric Idle, Terry Jones and Michael Palin, *Monty Python and the Holy Grail: The Screenplay*, page 76, Methuen, 2003 (U.K.) ISBN 0-413-77394-9
- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 46–48

External links

- Tricyclopedia Book of Threes (<http://threes.com/>) by Michael Eck
- *Three* (<http://www.imdb.com/title/tt0377309/>) at the Internet Movie Database
- Threes in Human Anatomy (<http://www.meddean.luc.edu/lumen/MedEd/GrossAnatomy/Threes.html>) by Dr. John A. McNulty

koi:3 (куим) рпв:3



Travelling in a troika (three-horse sled).

4 (number)

4	
−1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	4 four
Ordinal	4th fourth
Numeral system	quaternary
Factorization	2^2
Divisors	1, 2, 4
Roman numeral	IV <i>or</i> IIII
Roman numeral (Unicode)	Ⅳ, Ⅳ
Arabic	٤, 4
Arabic (Persian, Urdu)	چ
Ge'ez	፩
Bengali	৪
Chinese numeral	四, 三, 肆
Devanagari	४
Tamil	௪
Hebrew	ארבע (Arba, pronounced are-buh) or ד (Dalet, 4th letter of the Hebrew alphabet)
Khmer	៤
Thai	๔
prefixes	tetra- (from Greek) quadri-/quadr- (from Latin)
Binary	100
Octal	4
Duodecimal	4
Hexadecimal	4
Vigesimal	4

4 (four) is a number, numeral, and glyph. It is the natural number following 3 and preceding 5.

In mathematics

Four is the smallest composite number, its proper divisors being 1 and 2. Four is also a highly composite number. The next highly composite number is 6.

Four is the second square number, the second centered triangular number.

4 is the smallest squared prime (p^2) and the only even number in this form. It has an aliquot sum of 3 which is itself prime. The aliquot sequence of 4 has 4 members (4, 3, 1, 0) and is accordingly the first member of the 3-aliquot tree.

Only one number has an aliquot sum of 4 and that is squared prime 9.

The prime factorization of four is two times two.

Four is the smallest composite number that is equal to the sum of its prime factors. (As a consequence of this, it is the smallest Smith number). However, it is the largest (and only) composite number n for which $(n - 1)! \equiv 0 \pmod{n}$ is false.

It is also a Motzkin number.

In addition, $2 + 2 = 2 \times 2 = 2^2 = 4$. Continuing the pattern in Knuth's up-arrow notation, $2 \uparrow\uparrow 2 = 2 \uparrow\uparrow\uparrow 2 = 4$, and so on, for any number of up arrows.

A four-sided plane figure is a quadrilateral (quadrangle) or square, sometimes also called a *tetragon*. A circle divided by 4 makes right angles. Because of it, four (4) is the base number of plane (mathematics). Four cardinal directions, four seasons, duodecimal system, and vigesimal system are based on four.

A solid figure with four faces is a tetrahedron. The regular tetrahedron is the simplest Platonic solid. A tetrahedron, which can also be called a 3-simplex, has four triangular faces and four vertices. It is the only self-dual regular polyhedron.

Four-dimensional space is the highest-dimensional space featuring more than three convex regular figures:

- Two-dimensional: infinitely many convex regular polygons.
- Three-dimensional: five convex regular polyhedra (the five Platonic Solids).
- Four-dimensional: six convex regular polychora.
- Five-dimensional and every higher-dimensional: three regular convex polytopes (regular simplexes, hypercubes, cross-polytopes).

Four-dimensional differential manifolds have some unique properties. There is only one differential structure on \mathbb{R}^n except when $n = 4$, in which case there are uncountably many.

The smallest non-cyclic group has four elements; it is the Klein four-group. Four is also the order of the smallest non-trivial groups that are not simple.

Four is the maximum number of dimensions of a real division algebra (the quaternions), by a theorem of Ferdinand Georg Frobenius.

The four-color theorem states that a planar graph (or, equivalently, a flat map of two-dimensional regions such as countries) can be colored using four colors, so that adjacent vertices (or regions) are always different colors.^[1] Three colors are not, in general, sufficient to guarantee this. The largest planar complete graph has four vertices.

Lagrange's four-square theorem states that every positive integer can be written as the sum of at most four square numbers. Three are not always sufficient; 7 for instance cannot be written as the sum of three squares.

Four is the first positive non-Fibonacci number.

Each natural number divisible by 4 is a difference of squares of two natural numbers, i.e. $4x = y^2 - z^2$.

Four is an all-Harshad number and a semi-meandric number.

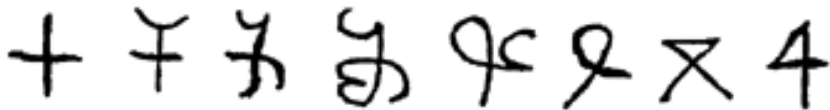
List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$4 \times x$	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	200	400	4000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
$4 \div x$	4	2	$1.\bar{3}$	1	0.8	$0.\bar{6}$	$0.\bar{571428}$	0.5	$0.\bar{4}$	0.4	$0.\bar{36}$	$0.\bar{3}$	$0.\bar{307692}$	$0.\bar{285714}$	$0.\bar{26}$	0.25
$x \div 4$	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3	3.25	3.5	3.75	4

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
4^x	4	16	64	256	1024	4096	16384	65536	262144	1048576	4194304	16777216	67108864
x^4	1	16	81	256	625	1296	2401	4096	6561	10000	14641	20736	28561

Evolution of the glyph



Representing 1, 2 and 3 in as many lines as the number represented worked well. The Brahmin Indians simplified 4 by joining its four lines into a cross that looks like our modern plus sign. The Sunga would add a horizontal line on top of the numeral, and the Kshatrapa and Pallava evolved the numeral to a point where speed of writing was a secondary concern. The Arabs' 4 still had the early concept of the cross, but for the sake of efficiency, was made in one stroke by connecting the "western" end to the "northern" end; the "eastern" end was finished off with a curve. The Europeans dropped the finishing curve and gradually made the numeral less cursive, ending up with a glyph very close to the original Brahmin cross.^[2]

While the shape of the 4 character has an ascender in most modern typefaces, in typefaces with text figures the character usually has a descender, as, for example, in 148.



On the seven-segment displays of pocket calculators and digital watches, as well as certain optical character recognition fonts, 4 is seen with an open top. This is because this was the original way the glyph was drawn (before the illustration above came into usage).

Television stations that operate on channel 4 have occasionally made use of another variation of the "open 4", with the open portion being on the side, rather than the top. This version resembles the Canadian Aboriginal syllabics letter ᐱ. The magnetic ink character recognition "CMC-7" font also uses this variety of "4". Another form of the 4 glyph that was invented for television was the arrow 4, which combines the 4 glyph with an arrow.

In religion

Buddhism

- Four Noble Truths
 - Dukkha – The Noble Truth of Suffering
 - Samudaya – The Noble Truth of the Cause of Suffering
 - Nirodha – The Noble Truth of the Cessation of Suffering
 - Magga – The Noble Truth of the Path leading to the Cessation of Suffering
- Four sights – observations which affected Prince Siddhartha deeply and made him realize the sufferings of all beings, and compelled him to begin his spiritual journey—an old man, a sick man, a dead man, and an ascetic
- Four Great Elements – earth, water, fire, and wind
- Four Heavenly Kings
- Four Foundations of Mindfulness – contemplation of the body, contemplation of feelings, contemplation of mind, contemplation of mental objects
- Four Right Exertions
- Four Bases of Power
- Four jhānas
- Four arūpajhānas
- Four Divine Abidings – loving-kindness, compassion, sympathetic joy, and equanimity
- Four stages of enlightenment – stream-enterer, once-returner, non-returner, and arahant
- Four main pilgrimage sites – Lumbini, Bodh Gaya, Sarnath, and Kusinara

Judeo-Christian symbolism

- The Tetragrammaton is the four-letter name of God.
- The four Matriarchs (foremothers) of Judaism are Sarah, Rebekkah, Leah, and Rachel.
- The Four Species (lulav, hadass, aravah and etrog) are taken as one of the mitzvot on the Jewish holiday of Sukkot. (Judaism)
- The Four Cups of Wine to drink on the Jewish holiday of Passover. (Judaism)
- The Four Questions to be asked on the Jewish holiday of Passover. (Judaism)
- The Four Sons to be dealt with on the Jewish holiday of Passover. (Judaism)
- The Four Expressions of Redemption to be said on the Jewish holiday of Passover. (Judaism)
- The Four Horsemen of the Apocalypse ride in the Book of Revelation.
- The four Gospels: Matthew, Mark, Luke, and John.

Hinduism

- In Puruṣārtha there are 4 aims of human life Dharma, Artha, Kāma, Moksha
- The four stages of life Brahmacharya (student life), Grihastha (household life), Vanaprastha (retired life) and Sannyasa (renunciation).
- The four primary castes or strata of society Brahmana (priest/teacher), Kshatriya (warrior/politician), Vaishya (landowner/entrepreneur) and Shudra (servant/manual laborer)

Islam

- Eid al-Adha lasts for four days, from the 10th to the 14th of Dhul Hijja.
- There are four The Rightly Guided Caliphs or Rashidun: Abu Bakr, Umar ibn al-Khattab, Uthman ibn Affan and Ali ibn Abi Talib.
- The Four Arch Angels in Islam are: Jibraeel (Gabriel), Mikaeel (Michael), Izraeel (Azrael), and Israfil (Raphael)
- There are four Sacred Months in Islam: Muharram, Rajab, Dhu al-Qi'dah and Dhu al-Hijjah.
- There are four Sunni schools of fiqh: Hanafi, Shafi'i, Maliki and Hanbali.

- There are four major sunni Imams: Abū Ḥanīfa, Muhammad ibn Idris ash-Shafī`i, Malik ibn Anas and Ahmad ibn Hanbal.

Other

- Four is the sacred number of the Zia, an indigenous tribe located in the U.S. State of New Mexico.
- The Chinese, Vietnamese, the Korean and the Japanese are superstitious about the number four because it is a homonym for "Death" in their languages

In science

- A tetramer is a thing formed out of four sub-units.

In astronomy

- Four terrestrial (or rocky) planets in the Solar system: Mercury, Venus, Earth, Mars.
- Four giant gas planets in the Solar system: Jupiter, Saturn, Uranus, Neptune.
- Four of Jupiter's moons (the Galilean moons) are readily visible from Earth.
- Messier object M4, a magnitude 7.5 globular cluster in the constellation Scorpius.
- The New General Catalogue object ^[6]NGC 4, a faint galaxy in the constellation Pisces
- The Roman numeral IV stands for subgiant in the Yerkes spectral classification scheme.
- The Roman numeral IV (usually) stands for the fourth-discovered satellite of a planet or minor planet (e.g. Jupiter IV)

In biology

- Four is the number of nucleobase types in DNA and RNA – adenine, guanine, cytosine, thymine (uracil in RNA).
- Many chordates have four feet, legs or leglike appendages (Tetrapods).
- The mammalian heart consists of four chambers.
- Many mammals (Carnivora, Ungulata) use four fingers for movement.
- The fourth finger of a human hand (on the left hand – ring-finger) is moved when the little finger moves.
- All insects with wings except flies have four wings.
- Insects of the superorder Endopterygota, also known as Holometabola, such as butterflies, ants, bees, beetles, fleas, flies, moths, and wasps, undergo holometabolism – complete metamorphosis in four stages – from (1) embryo (ovum, egg), to (2) larva (such as grub, caterpillar), then (3) pupa (such as the chrysalis), and finally (4) the imago.
- There are four human blood groups (A, B, O, AB).
- Humans have four canines, four incisors and four wisdom teeth.
- The cow's stomach is divided in four digestive compartments: reticulum, rumen, omasum and abomasum.

In chemistry

- Valency of carbon (that is basis of life on the Earth) is four. Also because of its tetrahedral crystal bond structure, diamond (one of the natural allotropes of carbon) is the hardest known naturally occurring material. It is also the valence of silicon, whose compounds form the majority of the mass of the Earth's crust.
 - The atomic number of beryllium
 - There are four basic states of matter: solid, liquid, gas, and plasma.
 - The four elements of alchemy are earth, water, air and fire.
-

In physics

- Special relativity and general relativity treat nature as four-dimensional – time and three-dimensional space are treated together and called spacetime. Also, any event E has a light cone composed of four zones of possible communication and cause and effect (outside the light cone is strictly incommunicado).
- An alpha particle (helium nucleus, also called a helion) consists of four hadrons.
- There are four fundamental forces (electromagnetism, gravitation, the weak nuclear force, and the strong nuclear force).
- In statistical mechanics, the four functions inequality is an inequality for four functions on a finite distributive lattice.

In logic and philosophy

- The symbolic meanings of the number four are linked to those of the cross and the square. "Almost from prehistoric times, the number four was employed to signify what was solid, what could be touched and felt. Its relationship to the cross (four points) made it an outstanding symbol of wholeness and universality, a symbol which drew all to itself". Where lines of latitude and longitude intersect, they divide the earth into four proportions. Throughout the world kings and chieftains have been called "lord of the four suns"..."lord of the four quarters of the earth"..." by which is understood to the extent of their powers both territorially and in terms of total control of their subjects' doings.
- The Square of Opposition, in both its Aristotelian version and its Boolean version, consists of four forms: A ("All S is R "), I ("Some S is R "), E ("No S is R "), and O ("Some S is not R ").
- In regard to whether two given propositions can have the same truth value, there are four distinct possibilities: the propositions are *subalterns* (both can be true and both can be false); *subcontraries* (both of them can be true but cannot both be false); *contraries* (both of them can be false but cannot both be true); or *contradictories* (both of them cannot be true and cannot both be false).
- Aristotle held that there are basically four causes in nature: the efficient cause, the matter, the end, and the form.
- The Stoics held with four basic categories, all viewed as bodies (substantial and insubstantial): (1) *substance* in the sense of substrate, primary formless matter; (2) *quality*, matter's organization to differentiate and individualize something, and coming down to a physical ingredient such as *pneuma*, breath; (3) *somehow holding* (or *disposed*), as in a posture, state, shape, size, action, and (4) *somehow holding* (or *disposed*) *toward something*, as in relative location, familial relation, and so forth.
- Immanuel Kant expounded a table of judgments involving four three-way alternatives, in regard to (1) Quantity, (2) Quality, (3) Relation, (4) Modality, and, based thereupon, a table of four categories, named by the terms just listed, and each with three subcategories.
- Arthur Schopenhauer's doctoral thesis was *On the Fourfold Root of the Principle of Sufficient Reason*.
- Franz Brentano held that any major philosophical period has four phases: (1) Creative and rapidly progressing with scientific interest and results; then declining through the remaining phases, (2) practical, (3) increasingly skeptical, and (4) literary, mystical, and scientifically worthless – until philosophy is renewed through a new period's first phase. (See Brentano's essay "The Four Phases of Philosophy and Its Current State" 1895, tr. by Mezei and Smith 1998.)
- C. S. Peirce, usually a trichotomist, discussed four basic methods of seeking to settle questions and arrive at firm beliefs: (1) the method of tenacity (sticking to one's initial belief), (2) the method of authority, (3) the *a priori* method, and (4) the method of science (see "The Fixation of Belief", 1877); and four barriers to inquiry, barriers refused by the fallibilist: (1) assertion of absolute certainty; (2) maintaining that something is absolutely unknowable; (3) maintaining that something is absolutely inexplicable because absolutely basic or ultimate; (4) holding that perfect exactitude is possible, especially such as to quite preclude unusual and anomalous phenomena (see "F.R.L. ^[3]" (First Rule of Logic), 1899).

- Paul Weiss built a system involving four modes of being: Actualities (substances in the sense of substantial, spatio-temporally finite beings), Ideality or Possibility (pure normative form), Existence (the dynamic field), and God (unity). (See Weiss's *Modes of Being*, 1958).
- Karl Popper outlined a tetradic schema to describe the growth of theories and, via generalization, also the emergence of new behaviors and living organisms: (1) problem, (2) tentative theory, (3) (attempted) error-elimination (especially by way of critical discussion), and (4) new problem(s). (See Popper's *Objective Knowledge*, 1972, revised 1979.)
- John Boyd (military strategist) made his key concept the decision cycle or OODA loop, consisting of four stages: (1) observation (data intake through the senses), (2) orientation (analysis and synthesis of data), (3) decision, and (4) action. Boyd held that his decision cycle has philosophical generality, though for strategists the point remains that, through swift decisions, one can disrupt an opponent's decision cycle.
- Richard McKeon outlined four classes (each with four subclasses) of modes of philosophical inquiry: (1) Modes of Being (Being); (2) Modes of Thought (That which is); (3) Modes of Fact (Existence); (4) Modes of Simplicity (Experience) – and, corresponding to them, four classes (each with four subclasses) of philosophical semantics: Principles, Methods, Interpretations, and Selections. (See McKeon's "Philosophic Semantics and Philosophic Inquiry" in *Freedom and History and Other Essays*, 1989.)
- Jonathan Lowe (E.J. Lowe) argues in *The Four-Category Ontology*, 2006, for four categories: *kinds* (substantial universals), *attributes* (relational universals and property-universals), *objects* (substantial particulars), and *modes* (relational particulars and property-particulars, also known as "tropes"). (See Lowe's "Recent Advances in Metaphysics," 2001, Eprint ^[4])

In technology

- The resin identification code used in recycling to identify low-density polyethylene.
- Most furniture has four legs – tables, chairs, etc.
- Four horses (quadriga) is the maximal number of horses in one row for carriage.
- The four color process (CMYK) is used for printing.
- Wide use of rectangles (with four angles and four sides) because they have effective form and capability for close adjacency to each other (houses, rooms, tables, bricks, sheets of paper, screens, film frames).
- In the Rich Text Format specification, language code 4 is for the Chinese language. Codes for regional variants of Chinese are congruent to 4 mod 256.
- Credit card machines have four-twelve function keys.
- On most phones, the 4 key is associated with the letters G, H, and I, but on the BlackBerry cellular phone, it is the key for D and F.
- On many computer keyboards, the "4" key may also be used to type the dollar sign (\$) if the shift key is held down.
- It is the number of bits in a nibble, equivalent to half a byte
- In internet slang, "4" can replace the word "for" (as "four" and "for" are pronounced similarly). For example, typing "4u" instead of "for you".
- In Leetspeak, "4" may be used to replace the letter "A".



In transport

- Most vehicles, including motor vehicles, and particularly cars/automobiles and light commercial vehicles have four road wheels.
- "quattro", meaning four in the Italian language, is used by Audi as a trademark to indicate that four-wheel drive (4WD) technologies are used on Audi-branded cars. The word "Quattro" was initially used by Audi in 1980 in its original 4WD coupé, the Audi Quattro. Audi also has a privately held subsidiary company called quattro GmbH.
- The designation of Interstate 4, a freeway in Florida, the lowest unqualified number assigned and signed in the Interstate Highway System of the United States. (There is an Interstate H-1, Interstate H-2 and Interstate H-3 in Hawaii.)

In sports

- In cricket, a four is a specific type of scoring event, whereby the ball crosses the boundary after touching the ground at least one time, scoring four runs. Taking four wickets in four consecutive balls is typically referred to as a double hat trick (two consecutive, overlapping hat tricks).
- In basketball, the term Final Four refers to the last four teams remaining in the NCAA playoff tournament, each of which is the winner of its respective region
- In rowing, a four refers to a boat for four rowers, with or without coxswain. In rowing nomenclature 4− represents a coxless four and 4+ represents a coxed four.
- In ice hockey, the "4 hole" is the space between a goaltender's glove-side arm and his glove-side leg
- In baseball scoring, number 4 is assigned to the second baseman.
- In gridiron football codes,
 - four points are awarded in a handful of leagues for rarely attempted types of field goals; an example is in six-man football. Because of the difficulties of getting a successful kick due to the few players on the field, a field goal is worth four points. Also, in Arena Football, a successful dropkicked field goal attempt scores four points.
 - the "four hole" in offense terminology is the space between the right guard and the right tackle on the offensive line
 - the "four back" is an extra running back (outside the fullback and halfback, often referred to as an H-back) in the backfield; e.g. a play call for a "44 lead" indicates the H-back will follow the fullback into the hole between the right guard and the right tackle.

In other fields

See also 4 (disambiguation).

- In Claude E. Shannon's information theory, there are four stages in which a signal is properly generated, converted, or otherwise processed: the source, the encoding, the decoding, and the recipient or destination. There is also the channel between encoding and decoding, but in that stage the aim is to avoid modification, since any modification amounts to noise.
- The phrase "four-letter word" is used to describe most swear words in the English language, as most swear words do indeed possess four letters.
- Four (四, formal writing: 肆, pinyin sì) is considered an unlucky number in Chinese, Korean, Vietnamese and Japanese cultures because it sounds like the word "death" (死, pinyin sǐ). Due to that, many numbered product lines skip the "four": e.g. Nokia cell phones (there is no series beginning with a 4), Microsoft Windows (which switched to "Windows 95" for version 4^[5]), Palm PDAs, the Leisure Suit Larry games, etc. Some buildings skip floor 4 or replace the number with the letter "F", particularly in heavily Asian



areas. *See tetraphobia* and *Numbers in Chinese culture*.

- The number of characters in a canonical four-character idiom.
- In the NATO phonetic alphabet, the digit 4 is called "fower".
- In Astrology, Cancer is the 4th astrological sign of the Zodiac.
- Arthur Conan Doyle wrote a book titled *The Sign of the Four*.
- In Tetris, every shape in the game is formed of 4 blocks each. Also the game was named after "tetra" the Greek word for 4.
- In the English language, four is the only number with the same number of letters as its value.
- 4 is one of The Numbers – 4, 8, 15, 16, 23, and 42 – featured in *Lost*.
- 4 represents the number of Justices on the Supreme Court of the United States necessary to grant a writ of certiorari (i.e., agree to hear a case; it is one less than the number necessary to render a majority decision).

In music

- #4 is the pseudonym of American musician James Root, when performing with Slipknot.
- In classical music, common time is constructed of four beats.
- The number of movements in a symphony.
- The number of completed, numbered symphonies by Johannes Brahms.
- The number of strings on a violin, a viola, a cello, double bass, a cuatro and a ukulele, and the number of string pairs on a mandolin.
- *Four*, an album by Blues Traveler
- *4*, an album by Foreigner

Groups of four

- Four rules: addition, subtraction, multiplication, division.
- Greek classical elements (fire, air, water, earth).
- Four seasons: spring, summer, autumn, winter.
- Four parts of a day: night, morning, afternoon, evening.
- Four cardinal directions: north, south, east, west.
- Four Temperaments: sanguine, choleric, melancholic, phlegmatic.
- Four Humors: blood, yellow bile, black bile, phlegm.
- Four Great Ancient Capitals of China
- Four corner method
- Cardinal principles
- Four canonical Christian Gospels, attributed to the Four Evangelists (Matthew, Mark, Luke, and John)
- Four horsemen of the Apocalypse: war, famine, pestilence, death.
- Four suits of playing cards: hearts, diamonds, clubs, spades.
- Four nations of the United Kingdom: England, Wales, Scotland, Northern Ireland.
- Four Noble Truths in the Buddhist religion.
- Four estates: politics, administration, judiciary, journalism. Especially in the expression "Fourth Estate", which means journalism.
- Four Corners is the only location in the United States where four states come together at a single point: Colorado, Utah, New Mexico, and Arizona.
- The Fantastic Four: Mr. Fantastic, The Invisible Woman, The Human Torch, and The Thing.
- The Beatles were also known as the "Fab Four": John Lennon, Ringo Starr, George Harrison, and Paul McCartney.
- Gang of Four is a British post-punk rock band formed in the late 1970s.

- There are four members in a quartet.
- Typically there are four string players in a classical string quartet, usually two violinists, a violist, and a cellist.
- Four food groups (meat products, dairy products, grain products, and fruits/vegetables). Note that this traditional model is falling out of favor, as fruits and vegetables became separate groups in the 1992 USDA food guide pyramid. Also, refined fats and sugars constitute another group (traditionally considered non-essential).
- Four rivers in the Garden of Eden (Genesis 2:10–14): Pishon (perhaps the Jaxartes or Syr Darya), Gihon (perhaps the Oxus or Amu Darya), Hiddekel (Tigris), and P'rat (Euphrates)
- There are four years in a full single term in office for the President of the United States.
- There are also four years in a single olympiad (duration between the Olympic Games).

References

- [1] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 48
- [2] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 394, Fig. 24.64
- [3] http://www.princeton.edu/~batke/peirce/frl_99.htm
- [4] <http://www.cs.vassar.edu/~welytc/fois/fois-2001/keynote/>
- [5] <http://windowsteamblog.com/blogs/windowsvista/archive/2008/10/14/why-7.aspx>
- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 55 - 58

External links

- Marijn.Org on Why is everything four? (<http://www.marijn.org/everything-is-4>)
- A few thoughts on the number four (http://www.samuel-beckett.net/Penelope/four_symbolism.html), by Penelope Merritt at samuel-beckett.net

koi:4 (нёль) fr:Fjouer pnb:4

5 (number)

*This article discusses the number **five**. For the year 5 AD, see 5. For other uses of 5, see 5 (disambiguation).*

5	
−1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	5 five
Ordinal	5th fifth
Numeral system	quinary
Factorization	prime
Divisors	1, 5
Roman numeral	V
Roman numeral (Unicode)	V, v
Greek numeral	ε´
Arabic	٥, 5
Arabic (Persian, Urdu)	۵
Ge'ez	፩
Bengali	৫
Punjabi	੫
Chinese numeral	五, 伍
Devanāgarī	५
Hebrew	ה (He)
Khmer	៥
Tamil	௫
Thai	๕
prefixes	penta-/pent- (from Greek) quinque-/quinq-/quint- (from Latin)
Binary	101
Octal	5
Duodecimal	5
Hexadecimal	5
Vigesimal	5 (5)

5 (five) is a number, numeral, and glyph. It is the natural number following 4 and preceding 6.

In mathematics

Five is between 4 and 6 and is the third prime number. Because it can be written as $2^2 \cdot 1 + 1$, five is classified as a Fermat prime. 5 is the third Sophie Germain prime, the first safe prime, the third Catalan number, and the third Mersenne prime exponent. Five is the first Wilson prime and the third factorial prime, also an alternating factorial. Five is the first good prime. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$. It is also the only number that is part of more than one pair of twin primes. Five is a congruent number. Five is conjectured to be the only odd untouchable number and if this is the case then five will be the only odd prime number that is not the base of an aliquot tree.

The number 5 is the 5th Fibonacci number, being 2 plus 3. 5 is also a Pell number and a Markov number, appearing in solutions to the Markov Diophantine equation: (1, 2, 5), (1, 5, 13), (2, 5, 29), (5, 13, 194), (5, 29, 433), ... (A030452 ^[1] lists Markov numbers that appear in solutions where one of the other two terms is 5). Whereas 5 is unique in the Fibonacci sequence, in the Perrin sequence 5 is both the fifth and sixth Perrin numbers.

5 and 6 form a Ruth–Aaron pair under either definition. The classification however may be frowned upon.

There are five solutions to Zná́m's problem of length 6.

Five is the second Sierpinski number of the first kind, and can be written as $S_2 = (2^2) + 1$

While polynomial equations of degree 4 and below can be solved with radicals, equations of degree 5 and higher cannot generally be so solved. This is the Abel–Ruffini theorem. This is related to the fact that the symmetric group S_n is a solvable group for $n \leq 4$ and not solvable for $n \geq 5$.

While all graphs with 4 or fewer vertices are planar, there exists a graph with 5 vertices which is not planar: K_5 , the complete graph with 5 vertices.

Five is also the number of Platonic solids.^[2]

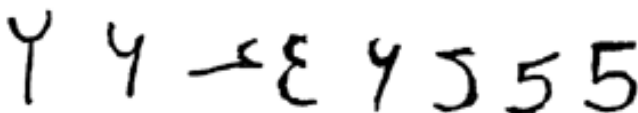
A polygon with five sides is a pentagon. Figurate numbers representing pentagons (including five) are called pentagonal numbers. Five is also a square pyramidal number.

Five is the only prime number to end in the digit 5, because all other numbers written with a 5 in the ones-place under the decimal system are multiples of five. As a consequence of this, 5 is in base 10 a 1-automorphic number.

Vulgar fractions with 5 or 2 in the denominator do not yield infinite decimal expansions unlike expansions with most prime denominators, because they are prime factors of ten, the base. When written in the decimal system, all multiples of 5 will end in either 5 or 0.

There are five Exceptional Lie groups.

Evolution of the glyph



The evolution of our modern glyph for five cannot be neatly traced back to the Brahmin Indians quite the same way it can for 1 to 4. Later on the Kushana and Gupta Indians had among themselves several different glyphs which bear no resemblance to the modern glyph. The Nagari and Punjabi took these glyphs and all came up with glyphs that are similar to a lowercase "h" rotated 180°. The Ghubar Arabs transformed the glyph in several different ways, producing glyphs that were more similar to the numbers 4 or 3 than to the number 5.^[3] It was from those characters that the Europeans finally came up with the modern 5, though from purely graphical evidence, it would be much easier to conclude that our modern 5 came from the Khmer. The Khmer glyph develops from the Kushana/Āndhra/Gupta numeral, its shape looking like a modern day version with an extended swirled 'tail' [G Ifrah, *The Universal History of Numbers* ISBN 1-86046-324-X]

While the shape of the 5 character has an ascender in most modern typefaces, in typefaces with text figures the character usually has a descender, as, for example, in 256.

Science

- The atomic number of boron.
- The lightest atomic mass (the sum of protons and neutrons) for which no stable isotopes exist for any element.
- The number of appendages on most starfish, which exhibit pentamerism.
- The most destructive known hurricanes rate as Category 5 on the Saffir–Simpson Hurricane Scale.
- The most destructive known tornadoes rate an F-5 on the Fujita scale.

Astronomy

- Messier object M5, a magnitude 7.0 globular cluster in the constellation Serpens.
- The New General Catalogue object ^[6] NGC 5, a magnitude 13 spiral galaxy in the constellation Andromeda.
- The Roman numeral V stands for dwarfs (main sequence stars) in the Yerkes spectral classification scheme.
- The Roman numeral V (usually) stands for the fifth-discovered satellite of a planet or minor planet (e.g. Jupiter V)
- The Saros number ^[8] of the lunar eclipse series which began on -2581 October 8 and ended on -1084 March 24. The duration of Saros series 5 was 1496.5 years, and it contained 84 lunar eclipses.
- The Saros number ^[7] of the solar eclipse series which began on April 4, 2720 BC and ended on May 24, 1422 BC. The duration of Saros series 5 was 1298.1 years, and it contained 73 solar eclipses.
- There are five Lagrangian points in a two-body system.

Biology

- Almost all amphibians, reptiles, and mammals which have fingers or toes have five of them on each extremity.

Religion and culture

Christian

- There are traditionally Five Wounds of Jesus Christ in Christianity: the Scourging at the Pillar, the Crowning with Thorns, the wounds in Christ's hands, the wounds in Christ's feet, and the Side Wound of Christ.

Jewish

- The book of Psalms is arranged into five books, paralleling the Five Books of Moses.
- The Khamsa, an ancient symbol shaped like a hand with five fingers, is used as a protective amulet by Jews; that same symbol is also very popular in Arabic culture, known to protect from envy and the evil eye.
- The Torah contains five books—Genesis, Exodus, Leviticus, Numbers, and Deuteronomy—which are collectively called the Five Books of Moses, the Pentateuch (Greek for "five containers," referring to the scroll cases in which the books were kept), or Humash (חמשה, Hebrew for "fifth").

Islamic

- Muslims pray to Allah five times a day
- In Islam, particularly Shia Islam, the Panjetan or the Five Holy Purified Ones are the members of Muhammad's family: Muhammad, Ali, Fatima, Hasan, and Husayn and is often symbolically represented by an image of the Khamsa.
- There are five basic "pillars" of Islam.

Sikh

- The five sacred Sikh symbols prescribed by Guru Gobind Singh are commonly known as Panj Kakars or the 'Five Ks' because they start with letter K representing Kakka in the Punjabi language. They are: Kesh (unshorn hair), Kangha (the comb), Kara (the steel bracelet), Kachh (the soldiers shorts), and Kirpan (the sword).

Discordianism

- In Discordianism, 5 is seen as a very important number. This is demonstrated in the Law of Fives, as well as in the Pentabarf, which contains five rules.
- Each page of the Principia Discordia —the primary religious document in Discordianism— is labeled with five digits.

Other

- According to ancient Greek philosophers such as Aristotle, the universe is made up of five classical elements: water, earth, air, fire, and ether. This concept was later adopted by Medieval alchemists and more recently by practitioners of Neo-Pagan religions such as Wicca.
- The pentagram, or five-pointed star, bears religious significance in various faiths including Baha'i, Christianity, Satanism, Taoism, Thelema and Wicca.
- In Cantonese, "five" sounds like the word "not" (symbol: 唔). When five appears in front of a lucky number, e.g. "58", the result is considered unlucky.
- In East Asian tradition, there are five elements: (water, fire, earth, wood, and metal). The Japanese names for the days of the week, Tuesday through Saturday, come from these elements via the identification of the elements with the five planets visible with the naked eye. Also, the traditional Japanese calendar has a five-day weekly cycle that can be still observed in printed mixed calendars combining Western, Chinese-Buddhist, and Japanese names for each weekday.

Music

- **Songs or other compositions with 5 in the title:**
- *Five* is the 13th track on The Burning Red album by heavy metal band Machine Head.
- *5* is a song from après les dancings album by Travis Bürki.
- *Five Minutes Alone* is a song by heavy metal group Pantera.
- *Five Minutes Of Funk* is a song by New York rapper Whodini.
- *Take Five* is a famous jazz standard composed by Paul Desmond. It counts five beats per bar.
- The Vogues song "Five-o'clock World" came in reference to the hours 9 to 5 (ending at 5 p.m.), which are the hours of a standard work day. There are also five working days (non-weekends) in a week.
- *High 5 (Rock The Catskills)* is a song by Beck from the album *odelay*
- *5 years* is a song by Björk from the album *Homogenic*
- **Albums or collections of music with 5 in the title:**
- *5* is an album by Lenny Kravitz.
- *5* is an album by JJ Cale.
- *5th* is an album by Lee Michaels.
- **Performers:**
- #5 is the pseudonym of American musician Craig Jones, when performing with Slipknot
- Bands with "five" in their name include The Jackson 5, Maroon 5, Jump5, We Five, Five for Fighting, Zanussi 5, The Click Five, MC5 (short for "Motor City Five"), Ben Folds Five, Five Man Electrical Band, The Five Keys, The Jive Five, The Count Five, The Five Satins, Five Iron Frenzy, and The Dave Clark Five.
- Jurassic 5 is a hip hop crew whose second full length album was titled "Power in Numbers."
- Maroon 5 is a pop/rock band from Los Angeles, California, that has become popular thanks to songs such as "Harder To Breathe" and "This Love." The band won the Grammy Award for Best New Artist in 2005.

- The Five is the name of a 19th century Russian Group of nationalistic composers who included César Cui, Alexander Borodin, Mily Balakirev, Modest Mussorgsky, and Nikolai Rimsky-Korsakov.
- The name of the band The 5th Dimension implies that they are transcending beyond even the fourth dimension (time) into a new inner dimension.
- There was a British boy band called Five.
- **Other Musical concepts:**
- A Perfect fifth is the most consonant harmony, and is the basis for most western tuning systems.
- Modern musical notation uses a musical staff made of five horizontal lines.
- In harmonics - the fifth partial (or 4th overtone) of a fundamental has a frequency ratio of 5/1 to the frequency of that fundamental. This ratio corresponds to the interval of 2 octaves + a pure major third. Thus, the interval of 5/4 is the interval of the pure third. A major triad chord when played in just intonation (most often the case in a cappella vocal ensemble singing), will contain such a pure major third.
- The number of completed, numbered piano concertos of Ludwig van Beethoven, Sergei Prokofiev, and Camille Saint-Saëns.
- Using the Latin root, five musicians are called a quintet.

Film and television

- Babylon 5 is a science fiction television series created, produced and largely written by J. Michael Straczynski
 - Odyssey 5 is a 2002 science fiction television series
 - Channel 5 is a television channel that broadcasts in the United Kingdom
 - The Fifth Element is a 1997 science fiction film
 - Five Go Mad in Dorset was the first of the long-running series of Comic Strip Presents... television comedy films
 - Towards the end of the film Monty Python and the Holy Grail, the character of King Arthur repeatedly confuses the number five for the number three.
 - The number 5 features in the television series Battlestar Galactica in regards to the Final Five cylons and the Temple of Five
 - Johnny 5 is the lead character in the 1986 film Short Circuit
 - The number 5 and Roman Numeral V figure prominently in the film V for Vendetta, produced by Warner Bros and directed by James McTeigue, adapted from the graphic novel V for Vendetta, by Alan Moore.
 - Noitra jiruga from bleach was ranked number 5 aka fifth strongest in souske aizens army.
-

Literature

- The Famous Five is the name of a series of children's books by British writer Enid Blyton.

Sports

- The Olympic Games have five interlocked rings as their symbol, representing the number of inhabited continents represented by the Olympians (counting North America and South America as one continent).
- Five-a-side football is a variation of association football in which each team fields five players.
- The jersey number 5 has been retired by several North American sports teams in honor of past playing greats or other key figures:
 - In Major League Baseball:
 - The Baltimore Orioles, for Hall of Famer Brooks Robinson.
 - The Cincinnati Reds have retired the number twice. The first was in 1940 for Willard Hershberger, who committed suicide during the season. The number was returned to service in 1942, and was later retired a second time for Hall of Famer Johnny Bench.
 - The Cleveland Indians, for Hall of Famer Lou Boudreau.
 - The Detroit Tigers, for Hall of Famer Hank Greenberg.
 - The Florida Marlins, for their first president Carl Barger, who died four months before the team's first game.
 - The Houston Astros, for Jeff Bagwell.
 - The Kansas City Royals, for Hall of Famer George Brett.
 - The New York Yankees, for Hall of Famer Joe DiMaggio. He was Barger's favorite player, which led the Marlins to retire #5 following the latter's death.
 - In the NBA:
 - The Phoenix Suns, for Dick Van Arsdale.
 - In the NHL:
 - The Boston Bruins, for Dit Clapper.
 - The Montreal Canadiens, for Bernie Geoffrion.
 - The New York Islanders, for Denis Potvin.
 - The Toronto Maple Leafs, for Bill Barilko. The Leafs have a unique policy of not retiring numbers unless the player honoured either died or suffered a career-ending incident while a member of the team. Barilko disappeared while on a fishing trip in 1951; his presumed death was confirmed when the wreckage of the plane he was on was discovered in a remote section of Ontario in 1962.
 - The Washington Capitals, for Rod Langway.
 - In the NFL:
 - The Chicago Bears, for Hall of Famer George McAfee.
- The number is worn by many active baseball players, of whom the most notable is perennial All-Star Albert Pujols of the St. Louis Cardinals.
- In baseball scorekeeping, the number five represents the third baseman's position.
- In basketball:

Jason Kidd wore the number five on his jersey while playing on the New Jersey Nets. He now plays on the Dallas Mavericks and wears the number two.

- Several players in the NBA have worn the number 5 on their jersey, including Hall of Fame caliber players Jason Kidd of the Dallas Mavericks and most recently Kevin Garnett of the Boston Celtics. Kidd now wears the number two, but wears his old number on the USA men's national basketball team. Bill Walton wore number 5 during the last few years of his career with the Boston Celtics.
- The number 5 is used to represent the position of center.
- The number of players of a basketball team on the court at a given time.
- 5 is the number of goals that Futebol Clube do Porto ^[4] scored to Benfica ^[5] in Dragon Stadium and became the record of scoring in Classic Soccer Game.
- In Formula One racing, the number 5 & 6 cars traditionally belonged to the Williams team, until the end of the 1995 Formula One season. It was most synonymous with Nigel Mansell in the late 80s and early 90s.
- In hockey, the area between the goaltender's legs is known as the five-hole.
- In professional wrestling, if a wrestler grabs the ropes when he is in a submission hold, the attacking wrestler has up to a 5 count to break the hold until a disqualification is made. This is also the case for choking.
- In rugby league, the number of the left wing, and also the number of tackles the attacking team has to score a try before the handover.
- In rugby union, the number of the lock forward who usually jumps at number 4 in the line-out. It is also the number of points awarded for a try.
- The number of *kyu* (pupil) grades in judo.
- The holy number of Discordianism, as dictated by the Law of Fives.

Technology

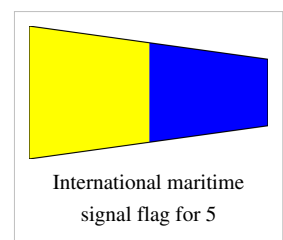
- 5 is the most common number of gears for automobiles with manual transmission.
- In radio communication, the term "Five by five" is used to indicate perfect signal strength and clarity.
- On almost all devices with a numeric keypad such as telephones, computers, etc., the 5 key has a raised dot or raised bar to make dialing easier. Persons who are blind or have low vision find it useful to be able to feel the keys of a telephone. All other numbers can be found with their relative position around the 5 button (on computer keyboards, the 5 key of the numpad has the raised dot or bar, but the 5 key that shifts with % does not).
- On most telephones, the 5 key is associated with the letters J, K, and L, but on some of the BlackBerry phones, it is the key for G and H.
- The Pentium, coined by Intel Corporation, is a fifth-generation x86 architecture microprocessor.
- The resin identification code used in recycling to identify polypropylene.
- a pentamer is an oligomer composed of five sub-units.



Miscellaneous fields

Five can refer to:

- "Give me five" is a common phrase used preceding a High five
- An informal term for the British Security Service, MI5.
- Five babies born at one time are quintuplets. The most famous set of quintuplets were the Dionne quintuplets born in the 1930s.
- In the United States legal system, the Fifth Amendment to the United States Constitution can be referred to in court as "pleading the fifth", absolving the defendant from self-incrimination.
- Pentameter is verse with five repeating feet per line; iambic pentameter was the most popular form in Shakespeare.



- Quintessence, meaning 'fifth element', refers to the elusive fifth element that completes the basic four elements (water, fire, air, and earth)
- The designation of an Interstate Highway (Interstate 5) that runs from San Diego, California to Blaine, Washington. In addition, all major north-south Interstate Highways in the United States end in 5.
- The five basic tastes are sweet, salty, sour, bitter, and umami.
- In the computer game Riven, 5 is considered a holy number, and is a recurring theme throughout the game, appearing in hundreds of places, from the number of islands in the game, to the number of bolts on pieces of machinery.
- The Garden of Cyrus 1658 by Sir Thomas Browne is a Pythagorean Discourse based upon the number 5.
- The holy number of Discordianism, as dictated by the Law of Fives.
- The number of Justices on the Supreme Court of the United States necessary to render a majority decision.
- The number of dots in a quincunx.
- The number of permanent members with veto power on the United Nations Security Council.
- The number of points in a pentagram.
- The number of Korotkoff sounds when measuring blood pressure
- The drink Five Alive is named for its five ingredients.
- The Keating Five were five United States Senators accused of corruption in 1989.
- No. 5 is the name of the iconic fragrance created by Coco Chanel.
- The Committee of Five was delegated to draft the United States Declaration of Independence.
- The 5th U.S. President was James Monroe.



The fives of all four suits in playing cards

References

- [1] <http://en.wikipedia.org/wiki/Oeis%3Aa030452>
- [2] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 61
- [3] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 394, Fig. 24.65
- [4] <http://www.fcporto.pt>
- [5] <http://www.slbenfica.pt>
- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 58 - 67

External links

- My Favorite Numbers: 5 (<http://math.ucr.edu/home/baez/numbers/index.html#5>), John C Baez
- koi:5 (вит) pnb:5

6 (number)

6	
<p style="text-align: center;">-1 0 1 2 3 4 5 6 7 8 9 →</p> <p style="text-align: center;">List of numbers — Integers</p> <p style="text-align: center;">0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	6 six
Ordinal	6th sixth
Numeral system	senary
Factorization	$2 \cdot 3$
Divisors	1, 2, 3, 6
Roman numeral	VI
Roman numeral (Unicode)	Ⅵ, vi, ⅵ
Arabic	٦, 6
Arabic (Persian, Urdu)	۶
Amharic	፩
Bengali	৬
Chinese numeral	六, 陆
Devanāgarī	६
Hebrew	ו (Vav)
Khmer	៦
Thai	๖
Tamil	ஐ
prefixes	hexa-/hex- (from Greek) sexa-/sex- (from Latin)
Binary	110
Octal	6
Duodecimal	6
Hexadecimal	6

6 (six) is the natural number following 5 and preceding 7.

The SI prefix for 1000^6 is exa (E), and for its reciprocal atto- (a).

In mathematics

Six is the second smallest composite number, its proper divisors being 1, 2 and 3. Since six equals the sum of these proper divisors, six is the smallest perfect number.^[1] As a perfect number, 6 is related to the Mersenne prime 3, since $2^1(2^2 - 1) = 6$. (The next perfect number is 28.) It is the only even perfect number that is not the sum of successive odd cubes.^[2] Being perfect six is the root of the 6-aliquot tree, and is itself the aliquot sum of only one number; the square number, 25. Unrelated to 6 being a perfect number, a Golomb ruler of length 6 is a "perfect ruler."^[3] Six is a congruent number.

Six is the first discrete biprime (2.3) and the first member of the (2.q) discrete biprime family.

Six is the only number that is both the sum and the product of three consecutive positive numbers.^[4]

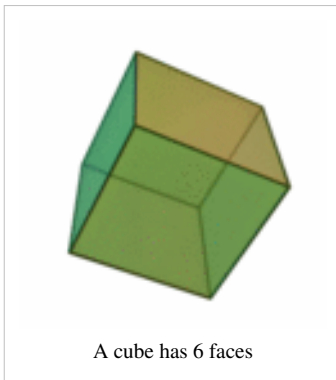
Six is a unitary perfect number, a harmonic divisor number and a highly composite number. The next highly composite number is 12.

5 and 6 form a Ruth-Aaron pair under either definition.

The smallest non-abelian group is the symmetric group S_3 which has $3! = 6$ elements.

S_6 , with 720 elements, is the only finite symmetric group which has an outer automorphism. This automorphism allows us to construct a number of exceptional mathematical objects such as the S(5,6,12) Steiner system, the projective plane of order 4 and the Hoffman-Singleton graph. A closely related result is the following theorem: 6 is the only natural number n for which there is a construction of n isomorphic objects on an n -set A , invariant under all permutations of A , but not naturally in 1-1 correspondence with the elements of A . This can also be expressed category theoretically: consider the category whose objects are the n element sets and whose arrows are the bijections between the sets. This category has a non-trivial functor to itself only for $n=6$.

6 similar coins can be arranged around a central coin of the same radius so that each coin makes contact with the central one (and touches both its neighbors without a gap), but seven cannot be so arranged. This makes 6 the answer to the two-dimensional kissing number problem. The densest sphere packing of the plane is obtained by extending this pattern to the hexagonal lattice in which each circle touches just six others.



6 is the largest of the four all-Harshad numbers.

A six-sided polygon is a hexagon, one of the three polygons capable of tiling the plane. Figurate numbers representing hexagons (including six) are called hexagonal numbers. Six is also an octahedral number. It is a triangular number and so is its square (36).

Six is the smallest number of distinct isosceles right triangles that will tile an isosceles right triangle.

There are six basic trigonometric functions.

There are six convex regular polytopes in four dimensions.

Six is the four-bit binary complement of number nine:

$$\begin{aligned} 6 &= 0110 \\ 9 &= 1001 \end{aligned}$$

The six exponentials theorem guarantees (given the right conditions on the exponents) the transcendence of at least one of a set of exponentials.

In numeral systems

Base	Numeral system	
2	binary	110
3	ternary	20
4	quaternary	12
5	quinary	11
6	senary	10
over 6 (decimal, hexadecimal)		6

In base 10, 6 is a 1-automorphic number.

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$6 \times x$	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	300	600	6000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
$6 \div x$	6	3	2	1.5	1.2	1	$0.\overline{857142}$	0.75	$0.\overline{6}$	0.6	$0.\overline{54}$	0.5	$0.\overline{461538}$	$0.\overline{428571}$	0.4
$x \div 6$	$0.\overline{16}$	$0.\overline{3}$	0.5	$0.\overline{6}$	$0.8\overline{3}$	1	$1.1\overline{6}$	$1.\overline{3}$	1.5	$1.\overline{6}$	$1.8\overline{3}$	2	$2.1\overline{6}$	$2.\overline{3}$	2.5

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
6^x	6	36	216	1296	7776	46656	279936	1679616	10077696	60466176	362797056	2176782336	13060694016
x^6	1	64	729	4096	15625	46656	117649	262144	531441	1000000	1771561	2985984	4826809

Evolution of the glyph

6 6 6

The evolution of our modern glyph for 6 appears rather simple when compared with that for the other numerals. Our modern 6 can be traced back to the Brahmins of India, who wrote it in one stroke like a cursive lowercase e rotated 90 degrees clockwise. Gradually, the upper part of the stroke (above the central squiggle) became more curved, while the lower part of the stroke (below the central squiggle) became straighter. The Ghubar Arabs dropped the part of the stroke below the squiggle. From there, the European evolution to our modern 6 was very straightforward, aside from a flirtation with a glyph that looked more like an uppercase G.^[5]

On the seven-segment displays of calculators and watches, 6 is usually written with six segments. Some historical calculator models use just five segments for the 6, by omitting the top horizontal bar. This glyph variant has not caught on; for calculators that can display results in hexadecimal, a 6 that looks like a 'b' is not practical.

Just as in most modern typefaces, in typefaces with text figures the 6 character usually has an ascender, as, for example, in 036.

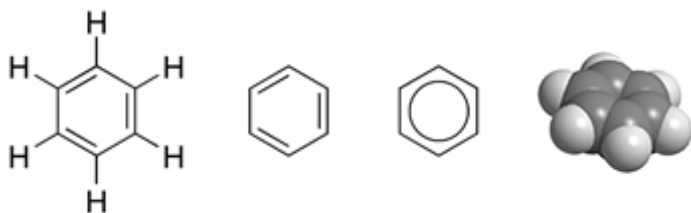
This numeral resembles an inverted 9. To disambiguate the two on objects and documents that can be inverted, the 6 has often been underlined, both in handwriting and on printed labels.

In science

Physics

- In the Standard Model of particle physics, there are 6 types of quark and 6 types of lepton
- In statistical mechanics, the six-vertex model has 6 possible configurations of arrows at each vertex

Chemistry



- A benzene molecule has a ring of 6 carbon atoms
- The atomic number of carbon is 6
- The sixfold symmetry of snowflakes arises from the hexagonal crystal structure of ordinary ice
- A hexamer is a oligomer made of six subunits.

Biology

- The cells of a beehive honeycomb are 6-sided
- Insects have 6 legs

Medicine

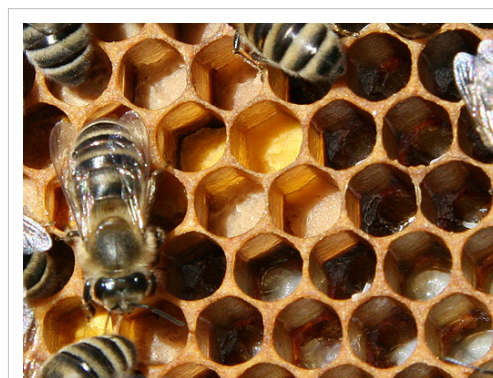
- The number of tastes in traditional Indian Medicine called Ayurveda. They are: sweet, sour, salty, bitter, pungent, and astringent. These tastes are used to suggest a diet based on the symptoms of the body
- Phase 6 is one of six pandemic influenza phases

Astronomy

- Messier object M6, a magnitude 4.5 open cluster in the constellation Scorpius, also known as the Butterfly Cluster
- The New General Catalogue object ^[6]NGC 6, a spiral galaxy in the constellation Andromeda
- The Saros number ^[7] of the solar eclipse series which began on -2691 March 16 and ended on -1393 May 3. The duration of Saros series 6 was 1298.1 years, and it contained 73 solar eclipses
- The Saros number ^[8] of the lunar eclipse series which began on -2642 July 25 and ended on -1091 February 10. The duration of Saros series 6 was 1550.6 years, and it contained 87 lunar eclipses
- The Roman numeral VI stands for subdwarfs in the Yerkes spectral classification scheme.
- The Roman numeral VI (usually) stands for the sixth-discovered satellite of a planet or minor planet (e.g. Jupiter VI)

Three Generations of Matter (Fermions)				
	I	II	III	
mass→	2.4 MeV	1.27 GeV	171.2 GeV	0
charge→	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	0
spin→	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
name→	u	c	t	Y
	up	charm	top	photon
	4.8 MeV	104 MeV	4.2 GeV	0
	$-\frac{1}{3}$	$-\frac{1}{3}$	$-\frac{1}{3}$	0
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
Quarks	d	s	b	g
	down	strange	bottom	gluon
	<2.2 eV	<0.17 MeV	<15.5 MeV	91.2 GeV
	0	0	0	0
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	ν_e	ν_μ	ν_τ	Z
	electron neutrino	muon neutrino	tau neutrino	weak force
	0.511 MeV	105.7 MeV	1.777 GeV	80.4 GeV
	-1	-1	-1	± 1
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
Leptons	e	μ	τ	W
	electron	muon	tau	weak force

In the Standard Model of particle physics, there are 6 types of quark and 6 types of lepton

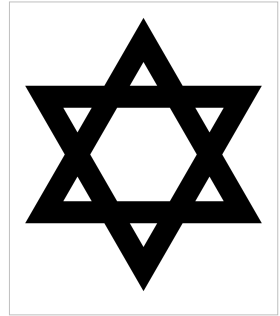


The cells of a beehive honeycomb are 6-sided

In religion

- The number of points on a Star of David
- The number of orders of the Mishnah
- The number of symbolic foods placed on the Passover Seder Plate
- The Jewish holiday of Shavuot starts on the sixth day of the Hebrew month of Sivan
- The Six articles of belief of Islam.
- In Islam, fasting six days of Shawwal together with the month of Ramadan is equivalent to fasting the whole year.

See also 666.



In music

- The number of strings on a standard guitar
- The number of basic holes or keys on most woodwind instruments (e.g., pennywhistle, clarinet, saxophone, bassoon). These holes or keys are usually not given numbers or letters in the fingering charts
- "Six geese a-laying" were given as a present on the sixth day in the popular Christmas carol, "The Twelve Days of Christmas"
- The concerti grossi Opus 3, organ concertos Opus 4 and Opus 7 (each) by Georg Frideric Handel
- The name of the second album by Mansun released in 1998. It takes its name in part from the main character in the television series *The Prisoner*, and from A. A. Milne's poetry book, *Now We Are Six*
- The French composers Georges Auric, Louis Durey, Arthur Honegger, Darius Milhaud, Francis Poulenc and Germaine Tailleferre were part of a group known as Les Six ("The Six" in English) in the 1920s.
- Bands with the number six in their name include 6 O'clock Saints, Eve 6, Slant 6, Sixpence None the Richer, Six In Six, Los Xey (*sei* is Basque for "six"), Vanity 6, You Me At Six, and Electric Six
- The number of semitones in a tritone
- The number that the sixth album by Dream Theater "Six Degrees Of Inner Turbulence" was based around. The album has six songs. The sixth song — that is, the complete second disc — explores the stories of six individuals suffering from various mental illnesses.
- #6, the pseudonym of American musician Shawn Crahan, when performing with Slipknot



A standard guitar has 6 strings

In sports

- In the NBA, the number of LeBron James
- In American and Canadian Football, the number of points received for a touchdown
- Six-man football is a variant of American football, played by smaller schools with insufficient enrollment to field the traditional 11-man squad.
- In rugby union, the position of blindside flanker
- In rugby league, the position of 5/8
- In football/soccer, the number of AC Milan's legendary centre back and captain Franco Baresi. The shirt was retired in 1997.
- In football/soccer, the number of Arsenal's legendary centre back and captain Tony Adams. The shirt was retired in 2002 on his retirement but has recently been passed on to Philippe Senderos.
- In football/soccer, the number of Roy Keane for the Irish International Squad.
- In football (soccer), the number of substitutes combined by both teams, that are allowed in the game.
- In baseball, six represents the shortstop's position
- In Australian Rules football, six points are received for a goal
- In cricket (See cricket terminology):
 - a "six" or "sixer" is a shot in which the ball clears the boundary without bouncing, scoring six runs
 - there are six balls to an over
- In ice hockey, the number of players per team, including the goaltender, that are on the ice at any one time, excluding penalty situations.
- The jersey number 6 has been retired by several North American sports teams in honor of past playing greats (or, in two cases, a team's fans):
 - In Major League Baseball:
 - The Boston Red Sox, for Johnny Pesky.
 - The Detroit Tigers, for Hall of Famer Al Kaline.
 - The Minnesota Twins, for Tony Oliva.
 - The St. Louis Cardinals, for Hall of Famer Stan Musial.
 - The San Diego Padres, for Steve Garvey.
 - In the NFL:
 - The Kansas City Chiefs, for Warren McVea.
 - In the NBA:
 - The Boston Celtics, for Hall of Famer Bill Russell.
 - The Orlando Magic, for their fans (the "sixth man").
 - The Philadelphia 76ers, for Hall of Famer Julius Erving.
 - The Phoenix Suns, for Walter Davis.
 - The Sacramento Kings, also for their fans.
 - In the NHL:
 - The Detroit Red Wings, for Larry Aurie.
 - The Toronto Maple Leafs, for Hall of Famer Ace Bailey. The Leafs have a unique policy of not retiring numbers unless the player honoured either died or suffered a career-ending incident while a member of the team. Bailey suffered a fractured skull during a game in 1933; while he recovered and lived for nearly 60 years after the incident, he never played again. The Leafs would issue the number to Ron Ellis in 1968 at Bailey's personal request, and Ellis wore it until his own retirement in 1981.
- In NASCAR, the number 6 is currently owned by Roush Fenway Racing. Since the 2007 season, the first year in which Roush Racing was merged with the Fenway Sports Group that owns the Boston Red Sox, the Cup Series version of the car has been driven by David Ragan. From 1988 to 2006, Mark Martin drove the #6 in the Cup

Series for what was then Roush Racing.

- The Original Six teams in the National Hockey League are Toronto, Chicago, Montreal, New York, Boston, and Detroit. They are the oldest remaining teams in the league, though not necessarily the first six; they comprised the entire league from 1942 to 1967.
- The National Hockey League and National Basketball Association have six divisions.
- In American college football, there are six conferences that automatically qualify for Bowl Championship Series games.
- In some sports, 6 goals is known as a double-hat-trick, but is very hard to accomplish.
- In Volleyball, 6 players from each team on each side play against each other.

In technology

- The resin identification code used in recycling to identify polystyrene.
- On most phones, the 6 key is associated with the letters M, N, and O, but on the BlackBerry it is the key for J and K. On BlackBerry 8700 series and Curve 8900 with full keyboard, it is the key for F.
- The "six meter band" in amateur radio includes the frequencies from 50 to 54 MHz



In television and film

- Number Six is the sixth of the twelve known Cylon models in the science fiction television series *Battlestar Galactica*
- Number Six is the main fictional character in the 1960s television series *The Prisoner*
- Six is the name of a character on *Blossom*
- Six (along with twenty-three and 801) is a recurring number on the revived series of *Doctor Who*
- The film *Six Degrees of Separation* deals with the sociological concept of the same name
- Six Degrees of Kevin Bacon is a game that can be played with the names of actors and actresses
- Before TV signals switched to all digital, the audio component of any broadcast channel 6 was located at 87.7 MHz. This meant that people could listen to TV stations such as WSYX using an FM radio (if it could tune to that frequency) when a television was not nearby.

In other fields

- In the ancient Roman calendar, Sextilis was the sixth month. After the Julian reform, June became the sixth month and Sextilis was renamed August
- Sextidi was the sixth day of the decade in the French Revolutionary calendar
- The standard term in office for a United States senator is six years
- The name of the smallest group of Cub Scouts, traditionally consisting of six people and is led by a 'sixer'.
- Sixth Officer Hantin in *The Pendragon Series*



- The number of cans of soda or beer in a six-pack
- The number of fundamental flight instruments lumped together on a cockpit display, called the six-pack.
- The number of feet below ground level a coffin is traditionally buried; thus, the phrase "six feet under" means that a person (or thing, or concept) is dead

- In Astrology, Virgo is the 6th astrological sign of the Zodiac
- The number of sides on a cube, hence the highest number on a standard dice
- The highest number on one end of a standard domino
- The number of dots in a Braille cell.
- There are said to be no more than six degrees of separation between any two people on Earth. See also Six degrees (disambiguation).
- Extra-sensory perception is sometimes called the "sixth sense"
- Six Cardinal Directions: north, south, east, west, up, and down
- The Six Dynasties form part of Chinese history
- 6 is a lucky number in Chinese culture
- The Bionic Six are the heroes of an animated series
- The Birmingham Six were held in prison for 16 years
- "Six" is used as an informal slang term for the British Secret Intelligence Service, MI6
- Six Flags amusement parks and theme parks



X-ray of a polydactyl human hand with six fingers

Hexa is Greek for "six". Thus:

- A hexahedron is a polyhedron with six faces, with a cube being a special case
- An hexagon is a regular polygon with six sides
 - *L'Hexagone* is a French nickname for the continental part of France
- Hexameter is a poetic form consisting of six feet per line
- "Hexadecimal" combines *hexa-* with the Latinate *decimal* to name a number base of 16
- A "hex nut" is a nut with six sides, and a hex bolt has a six-sided head.

The prefix "hexa-" also occurs in the systematic name of many chemical compounds, such as "hexamethyl"

Sex- is a Latin prefix meaning "six". Thus:

- A group of six musicians is called a sextet
- Six babies delivered in one birth are sextuplets
- People with sexdactyly have six fingers on each hand (see above photo)
- The measuring instrument called a sextant got its name because its shape forms one-sixth of a whole circle
- The ordinal adjective *senary*

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 - [2] David Wells, *The Penguin Dictionary of Curious and Interesting Numbers*. London: Penguin Books (1987): 67
 - [3] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 72
 - [4] Peter Higgins, *Number Story*. London: Copernicus Books (2008): 12
 - [5] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 395, Fig. 24.66
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 - *A Property of the Number Six*, Chapter 6, P Cameron, JH v. Lint, *Designs, Graphs, Codes and their Links* ISBN 0-521-42385-6
 - Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 67 - 69
- koι:6 (кватъ) pnb:6

7 (number)

7	
-1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	7 seven
Ordinal	7th seventh
Numeral system	septenary
Factorization	prime
Divisors	1, 7
Roman numeral	VII
Roman numeral (Unicode)	VII, vii
Amharic	፭
Arabic	٧, 7
Persian	تفھ - ٧
Bengali	৭
Chinese numeral	七, 柒
Devanāgarī	७ (saat)
Tamil	௭
Hebrew	ז (Zayin)
Khmer	៧
Thai	๗
prefixes	hepta-/hept- (from Greek) septua- (from Latin)
Binary	111
Octal	7
Duodecimal	7
Hexadecimal	7

7 (seven) is the natural number following 6 and preceding 8.

Mathematics

- Seven, the fourth prime number, is not only a Mersenne prime (since $2^3 - 1 = 7$) but also a double Mersenne prime since it is itself the exponent for another Mersenne prime (127). It is also a Newman-Shanks-Williams prime, a Woodall prime, a factorial prime, a lucky prime, a happy number, a safe prime and the fourth Heegner number.
- Seven is the lowest number which cannot be represented as the sum of the squares of three integers. (See Lagrange's four-square theorem#Historical development.)
- Seven is the aliquot sum of one number, the cubic number 8 and is the base of the 7-aliquot tree.
- $n = 7$ is the first natural number for which the next statement does not hold: "Two nilpotent endomorphisms from \mathbf{C}^n with the same minimal polynomial and the same rank are similar."
- 7 is the only dimension, besides the familiar 3, in which a vector cross product can be defined.
- 999,999 divided by 7 is exactly 142,857. Therefore, when a vulgar fraction with 7 in the denominator is converted to a decimal expansion, the result has the same six-digit repeating sequence after the decimal point, but the sequence can start with any of those six digits.^[1] For example, $1/7 = 0.142\ 857\ 142\dots$ and $2/7 = 0.285\ 714\ 285\dots$
- A seven-sided shape is a heptagon. The regular n -gons for $n \leq 6$ can be constructed by compass and straightedge alone, but the regular heptagon cannot. Figurate numbers representing heptagons (including seven) are called heptagonal numbers. Seven is also a centered hexagonal number.
- There are seven frieze groups, the groups consisting of symmetries of the plane whose group of translations is isomorphic to the group of integers.
- There are seven fundamental types of catastrophes.
- Seven is the sum of any two opposite sides on a standard six-sided die. When rolling two standard six-sided dice, seven has a 6 in 36 (or 1/6) probability of being rolled (1–6, 6–1, 2–5, 5–2, 3–4, or 4–3), the greatest of any number.
- The Millennium Prize Problems are seven problems in mathematics that were stated by the Clay Mathematics Institute in 2000. Currently, six of the problems remain unsolved.

Numeral systems

Base	Numeral system	
2	binary	111
3	ternary	21
4	quaternary	13
5	quinary	12
6	senary	11
7	septenary	10
over 7 (octal, decimal, etc.)		7

In quaternary, 7 is the smallest prime with a composite sum of digits.

Basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$7 \times x$	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175	350	700	7000

Division	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15					
$7 \div x$	7	3.5	2.3	1.75	1.4	1.16	1	0.875	0.7	0.7
	0.63	0.583	0.538461	0.5	0.46					
$x \div 7$	0.142857	0.285714	0.428571	0.571428	0.714285	0.857142	1	1.142857	1.285714	1.428571
	1.571428	1.714285	1.857142	2	2.142857					

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
7^x	7	49	343	2401	16807	117649	823543	5764801	40353607	282475249	1977326743	13841287201	96889010407
x^7	1	128	2187	16384	78125	279936	823543	2097152	4782969	10000000	19487171	35831808	62748517

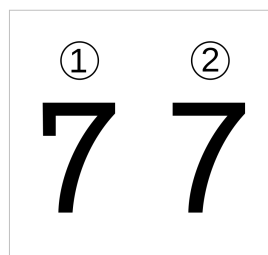
Radix	1	5	10	15	20	25	30	40	50	60	70	80	90	100
	110	120	130	140	150	200	250	500	1000	10000	100000	1000000		
x_7	1	5	13 ₇	21 ₇	26 ₇	34 ₇	42 ₇	55 ₇	101 ₇	114 ₇	130 ₇	143 ₇	156 ₇	202 ₇
	215 ₇	231 ₇	244 ₇	260 ₇	303 ₇	404 ₇	505 ₇	1313 ₇	2626 ₇	41104 ₇	564355 ₇	11333311 ₇		

Evolution of the glyph

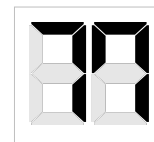


In the beginning, various Hindus wrote 7 more or less in one stroke as a curve that looks like an uppercase J vertically inverted. The western Ghubar Arabs' main contribution was to make the longer line diagonal rather than straight, though they showed some tendencies to making the character more rectilinear. The eastern Arabs developed the character from a 6-look-alike into an uppercase V-look-alike. Both modern Arab forms influenced the European form, a two-stroke character consisting of a horizontal upper line joined at its right to a line going down to the bottom left corner, a line that is slightly curved in some font variants. As is the case with the European glyph, the Cham and Khmer glyph for 7 also evolved to look like their glyph for 1, though in a different way, so they were also concerned with making their 7 more different. For the Khmer this often involved adding a horizontal line above the glyph.^[2] This is analogous to the horizontal stroke through the middle that is sometimes used in handwriting in the Western world but which is almost never used in computer fonts. This horizontal stroke is, however, important to distinguish the glyph for seven from the glyph for one in writings that use a long upstroke in the glyph for 1.

On the seven-segment displays of pocket calculators and digital watches, 7 is the number with the most common glyph variation (0, 6 and 9 also have variant glyphs). Most calculators use three line segments, but on Sharp, Casio, and a few other brands of calculators, 7 is written with four line segments because, in Japan and Korea, 7 is written as ① in the illustration to the right.



While the shape of the 7 character has an ascender in most modern typefaces, in typefaces with text figures the character usually has a descender, as, for example, in 078.

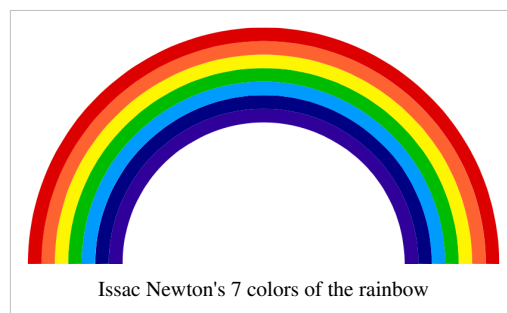


Most people in Europe, Latin America, and New England write 7 with a line in the middle ("7"), sometimes with the top line crooked. The line through the middle is useful to clearly differentiate the character from the number one, as these can appear similar when written in certain styles of handwriting. This glyph is used in official handwriting rules for primary school in Russia.^[3]

Science

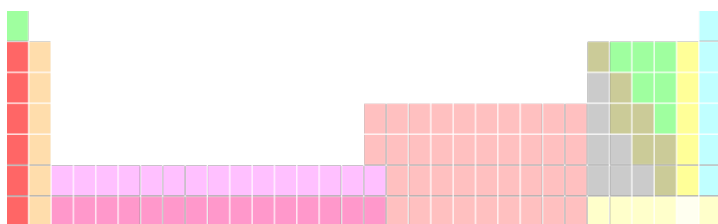
Physics

- There are 7 SI base units.^[4] These are a coherent set of units defined to measure 7 basic physical properties: metre, kilogram, second, ampere, kelvin, mole, candela. The 7 SI base units are used to define all other SI units, which are known as SI derived units.^[5]
- Isaac Newton identified 7 colors of the rainbow – red, orange, yellow, green, blue, indigo, and violet

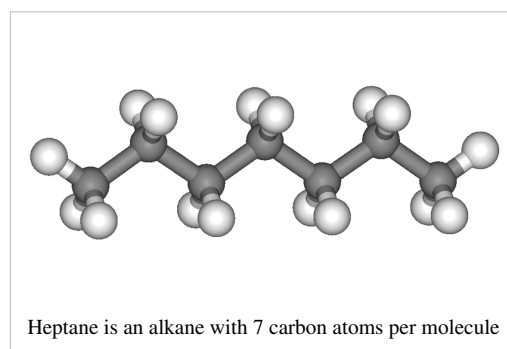


Chemistry

- A heptamer is a compound made of seven sub-units
- A neutral pH value between acidity and alkalinity
- The atomic number of nitrogen
- Heptane is an alkane with 7 carbon atoms in each molecule
- A period 7 element has 7 electron shells



- The number of periods, or horizontal rows of elements, in the periodic table



Biology

- Almost all mammals have 7 cervical vertebrae
- There are 7 types of virus according to the Baltimore classification
- The number of spots on a seven-spot ladybird

Astronomy

- The number of daughters of Atlas in the Pleiades (also called the "Seven Sisters")
- The number of stellar objects in the solar system visible to the naked eye from Earth – the Sun, the Moon and the five classical naked eye planets: Mars, Mercury, Jupiter, Venus, and Saturn.
- Messier object M7, a magnitude 3.5 open cluster in the constellation Scorpius.
- The New General Catalogue object ^[6]NGC 7, a 14th magnitude spiral galaxy in the constellation Sculptor.
- The number of saints appearing in a constellation called "Saptharishi Mandalam" in Indian astronomy.
- The number of main stars in the constellations of the Big Dipper and Orion.
- The Saros number ^[7] of the solar eclipse series which began on -2590 April 8 and ended on -1310 May 16. The duration of Saros series 7 was 1,280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -2595 July 15 and ended on -1008 February 22. The duration of Saros series 7 was 1,586.6 years, and it contained 89 lunar eclipses.
- The Roman numeral VII stands for white dwarfs in the Yerkes spectral classification scheme.
- The Roman numeral VII (usually) stands for the seventh-discovered satellite of a planet or minor planet (e.g., Jupiter VII).

Psychology

- The Magical Number Seven, Plus or Minus Two

Classical world

Classical antiquity

- Seven against Thebes
- Seven Emperors (and period; Rome, history)
 - Julius Caesar, Augustus, Galba, Hadrian, Nerva, Sallust, Vespasian
- Seven hills of Rome
- Seven hills of Constantinople
- Seven Liberal Arts
- Seven Sages of Greece
- Seven Sages of the Bamboo Grove in China
- *Seven Wise Masters*, a cycle of medieval stories
- Seven Wonders of the ancient world

Religion

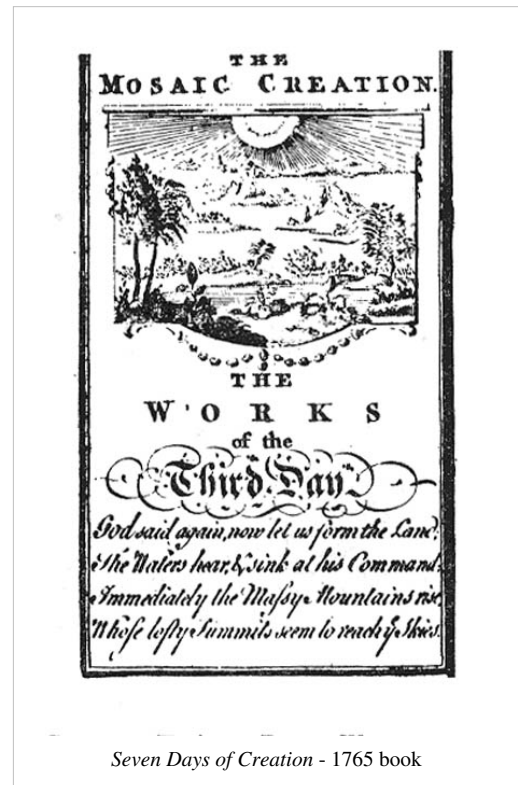
Christianity

The number seven (7) in the seven days of Creation is typological and the number seven appears commonly elsewhere in the Bible. These include:

- Seven days of Creation (Genesis 1) e.g., God rested on and sanctified the seventh day (Sabbath)
- Anyone who dares to kill Cain 'will suffer vengeance seven times over' (Genesis 4:15)
- Lamech in his "Song of the Sword" claims that 'if Cain shall be avenged sevenfold', he himself shall be 'seventy-sevenfold' (Genesis 4:24)
- Seven years of plenty and seven years of famine in Pharaoh's dream (Genesis 41)
- Seven days of the feast of Passover (Exodus 13:3–10)
- Seven day week and the pattern concerning distribution and use of manna (Exodus 16)
- Seven year cycle around the years of Jubilee (Leviticus 25)
- The fall of the walls of Jericho on the seventh day after marching around the city seven times (Joshua 6)
- Seven things that are detestable to the LORD (Proverbs 6:16–19)
- Seven Pillars of the House of Wisdom (Proverbs 9:1)
- Seven loaves multiplied into seven baskets of surplus (Matthew 15:32–37)
- The Seven last words (or seven last sayings) of Jesus on the cross
- Seven men of honest report, full of the Holy Ghost and wisdom (Acts 6:3)
- Seven Spirits of God are mentioned in the Book of Revelation
- Seven churches of Asia to which the "Book of Revelation" is addressed
- Seven churches, seven stars, seven seals, seven last plagues, seven vials or bowls, seven thunders in the Revelation, the last book of the Bible

Other sevens in Christian knowledge and practice include:

- The Seven Sacraments in the Catholic faith (though some traditions assign a different number)
- Seven Gifts of the Holy Spirit
- The Seven Joys of the Virgin Mary, of Roman Catholic, Anglican, and other traditions
- The Seven Sorrows of the Virgin Mary, of Roman Catholic, Anglican, and other traditions
- The Seven Corporal Acts of Mercy and Seven Spiritual Acts of Mercy of Roman Catholic, Anglican, and other traditions
- The Seven Virtues: chastity, temperance, charity, diligence, kindness, patience, and humility
- The Seven deadly sins: lust, gluttony, greed, sloth, wrath, envy, and pride
- The seven terraces of Mount Purgatory (one per deadly sin)
- In the genealogy in the Gospel of Luke, Jesus is 77th in a direct line
- The number of heads of the three beasts ($7 \times 10 \times 7 + 7 \times 10 \times 10 + 7 \times 10 = 1260$) of the Book of Revelation, and of some other monsters, like the hydra and the number of seals
- In the New Testament, in Matthew 18:21, Jesus says to Peter to forgive 'seventy times seven times', remembering so the curse of Cain and the song of Lamech in Genesis 4.^[6]



- There are seven suicides mentioned in the Bible (OT and NT).^[7]

Hinduism

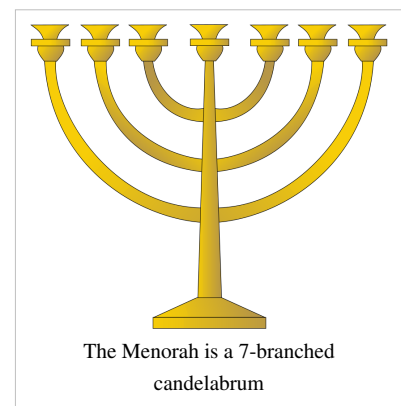
- The Sanskrit word *sapta* refers to number seven.
- Indian Music has "Saptak Swaras," seven octaves (sa re ga ma pa dha ni) which are basics of music, using which hundreds of Ragas are composed.
- Celestial group of seven stars are named as "Sapta Rishi" based on the seven great saints.
- Seven Promises, Seven Rounds in Hindu Wedding and Seven Reincarnation
- According to Hinduism, there are seven worlds in the universe, seven seas in the world and seven Rishies (seven gurus) called sapta rishis.
- Seven hills at tirumala also known as ezhu malaiyan means Sevenhills god
- There are 7 Chakras in the basic model used in various eastern traditions and philosophies.

Islam

- The number of ayat in surat al-Fatiha
- The number of layers of the Earth in Islamic religion is seven
- The number of skies in Islamic religion is seven
- The number of circumambulations (Tawaf) that are made around the Kaaba
- The number of walks between Al-Safa and Al-Marwah mountains—that is travelling back and forth—seven times during the ritual pilgrimages of Hajj and Umrah
- The number of heavens in Islamic religion, i.e. levels in heaven.
- The number of hells in hell is also seven i.e. levels in hell.
- The number of doors to hell is seven (for heaven the number of doors is eight).
- In Verse 12:46 (see Islamic view of Joseph) of the Quran, Joseph (Yusef) is asked to interpret the King's dream where seven fat cows were dreamt to have been devoured by seven skinny cows and seven green spikes, and others shrivelled.
- The number of the big sins or vices is seven which are from a Hadith of the prophet Mohamed : "Avoid the seven sins polytheism, witchcraft, the killing of the soul which Allah has forbidden except by right, consuming riba, consuming the wealth of the orphan, to escape from the battles and slandering chaste women"

Judaism

- A highly symbolic number in the Torah, alluding to the infusion of spirituality and Godliness into the creation. For example:
 - God rested on and sanctified the seventh day (Shabbat). – Genesis 2:3. "Wisdom has built her house, she has hewn out her seven pillars." – Proverbs of Solomon son of David King of Israel 9:1
 - A seven-day purification period is required for one who has become *tamei* to become *tahor*.
 - The *Shmita* (Sabbatical) year arrives every seventh year.
 - The Jubilee (*Yovel*) year comes after 7 times 7 years.
 - The Counting of the Omer leading up to the Giving of the Torah is expressed as "7 times 7 weeks."
 - There are 7 days of Passover and *Sukkot* when celebrated in Israel.
 - *Shiv'a* (another pronunciation of the Hebrew word for 7—(Hebrew: **שבע** ; "seven")), is the number of days of mourning. Hence, one *sits Shiva*. As in Shiva (Judaism)



- The weekly Torah portion is divided into seven *aliyahs*, and seven Jewish men (or boys over the age of 13 who are considered men; Bar Mitzvah) are called up for the reading of these aliyahs during *Shabbat* morning services.
- Seven blessings are recited under the *chuppah* during a Jewish wedding ceremony.
- A Jewish bride and groom are feted with seven days of festive meals after their wedding, known as *Sheva Berachot* ("Seven Blessings").
- The number of *Ushpizzin* (also known as the "Seven Shepherds") who visit the *sukkah* during the holiday of Sukkot: Abraham, Isaac, Jacob, Joseph, Moses, Aaron, and David.
- The number of nations God told the Israelites they would displace when they entered the land of Israel (Deut. 7:1): the Hittite, the Girgashite, the Amorite, the Canaanite, the Perizzite, the Hivite, and the Jebusite.
- In Breslov tradition, the seven orifices of the face (2 eyes, 2 nostrils, 2 ears, and the mouth) are called "The Seven Candles."
- The Menorah (Hebrew: **הַמְנוּרָה**), is a seven-branched candelabrum lit by olive oil in the Tabernacle and the Temple in Jerusalem. The menorah is one of the oldest symbols of the Jewish people. It is said to symbolize the Burning bush as seen by Moses on Mount Sinai (Exodus 25).
- The number of times Cain will be avenged by God if he is murdered (Gen 4:15).
- The Israelites circled Jericho for 7 days and then the wall tumbled down.
- The 7 Sefirot of primary conscious emotion that are attributes of the creator.

Others

- The number of Archangels according to some systems.
- The minor symbol number of yang from the Taoist yin-yang.
- The number of palms in an Egyptian *Sacred Cubit*.
- The number of ranks in Mithraism.
- The number seven is of particular significance within Cherokee cosmology.
- In the Bahá'í faith, the text *The Seven Valleys*, by the Prophet-Founder Bahá'u'lláh, relates the journey of the soul through the seven "valleys" of Search, Love, Knowledge, Unity, Contentment, Wonderment, and finally True Poverty and Absolute Nothingness.
- In Buddhism, Buddha walked 7 steps at his birth.
- Circle Seven Koran, the holy scripture of the Moorish Science Temple of America
- In Spanish and other Romance Languages, cats are said to have 7 lives as opposed to English, where cats are said to have 9 lives.
- In Iran cats are also said to have 7 lives.^[8]
- In Wiccan spirituality the number seven is said to hold a lot of divinity. It is known for being a very sound number and associates with many things.



- The Seven Lucky Gods refer to the seven gods of good fortune in Japanese mythology.
- In Khasi mythology, the seven divine women who were left behind on earth and became the ancestresses of all humankind.

- The number of gateways traversed by Inanna during her descent into the underworld.
- The number of sleeping men in the Christian myth of the "Seven Sleepers."
- The number of sages in Hindu mythology; their wives are the goddesses referred to as the "Seven Mothers."
- The number of main islands of mythological Atlantis.
- In Guaraní mythology, the number of prominent legendary monsters.

- In Irish mythology, the epic hero Cúchulainn is associated with the number 7. He has 7 fingers on each hand, 7 toes on each foot, and 7 pupils in each eye. In the Irish epic Táin Bó Cúailnge, Cúchulainn is 7 years old when he receives his first weapons and defeats the armies of the Ulaidh and his son Connla is 7 years old when he is slain by Cúchulainn in "The Death of Aife's Only Son."
- In British folklore, every 7 years the Queen of the Fairies pays a tithe to Hell (or possibly Hel) in the tale of Tam Lin.
- In the British folk tale of Thomas the Rhymer, he went to live in the faerie kingdom for 7 years.
- The 7th glyph of the Mayan Calendar is Blue Hand, it represents the days in creation and is associated with creative perfection. This is the glyph of the last day of their calendar that ends on December 21, 2012.
- The seven branched sword in Korean mythology.

Music

- The number of notes in the traditional Western Major Scale
- The original diameter in inches of the 45rpm format gramophone record.
- In music, the Roman numeral vii is the leading tone (vii[°]) or subtonic (VII) scale degree, chord (leading-tone seventh chord or secondary leading-tone chord), or diatonic function, when distinguished V = major and v = minor.
- There are seven musicians in a septet or a septuor.

Television

- In *Star Trek: Voyager*, Seven of Nine (also called Seven for short) is one of the crewmembers
- *Blake's Seven* was a BBC science fiction series that ran from 1978 to 1981
- The name of one of the monsters in the cartoon television show *Seven Little Monsters*
- Seven, an episodic character from the sitcom *Married... with Children*.
- In the *Seinfeld* episode "The Seven", Seven is the name George Costanza desires to give his first-born, having allegedly promised this to the widow of baseball great Mickey Mantle (whose uniform number was 7). George is enraged, however, when his fiancée's cousin and spouse copy the idea and give the name to their child.
- Seven Network, a television network in Australia.
- ProSieben (*sieben* being German for seven), a television network in Germany
- Maximum number of VHF broadcast channels available in any TV market in the United States of America; they are channels 2, 4, 5, 7, 9, 11, and 13 in the Greater New York City and Los Angeles-Long Beach SMSAs.
- *Ultra Seven*, a television series aired in 1967, and the superhero of the same name. He is the honorary seventh member of the Ultra Garrison.
- The name of a *The Adventures of Super Mario Bros. 3* cartoon, 7 Continents for 7 Koopas.
- The name of a television show *7th Heaven*
- *Eureka Seven*, a science fiction and romance anime.
- *Seven Days*, a science fiction show about the NSA using time travel.
- *7 Days*, A comedy gameshow based on news stories from New Zealand.

Film

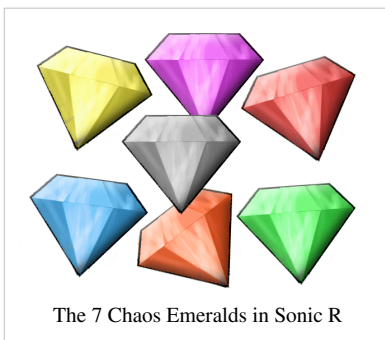
- The 1954 *Seven Samurai* by Akira Kurosawa starring Toshirō Mifune
- The 1960 American western film *The Magnificent Seven* starring Yul Brynner
- The musical film *Seven Brides for Seven Brothers*
- The Marilyn Monroe film *The Seven Year Itch* which is famous for the white dress blowing up
- The movie *Se7en*, directed in 1995 by David Fincher and starring Brad Pitt and Morgan Freeman
- The movie *The Seventh Sign*, directed in 1988 by Carl Schultz and starring Jürgen Prochnow and Demi Moore
- In the Disney film *Snow White and the Seven Dwarfs*
- The film *Lucky Number Slevin*, directed in 2006 by Paul McGuigan starring Josh Hartnett and Morgan Freeman
- The Swedish film *The Seventh Seal* directed by Ingmar Bergman
- James Bond's secret agent number is 007
- The 1940 film *Seven Sinners* directed by Tay Garnett, starring Marlene Dietrich
- The 1997 film *Seven Years in Tibet* directed by Jean-Jacques Annaud
- The 2008 film *Seven Pounds* starring Will Smith
- The 1925 film *Seven Chances* starring Buster Keaton
- The Anime *Elfen Lied* includes a character called Nana (Japanese for 7)

Literature

- In *The Lost Years of Merlin* series, a book is titled "The Seven Songs of Merlin"
- In the *Harry Potter* series of novels by J.K. Rowling, seven is said to be the most powerfully magical number. There are a number of references to seven in *Harry Potter*: there are a total of seven books in the series; Ginny Weasley is the seventh child and only daughter of the Weasley family; Harry Potter was born in July, the seventh month of the year; Wizarding students must complete seven years of school at Hogwarts; There are seven secret passages in Hogwarts; Seven is also the number on the back of Harry Potter's Quidditch robes (*Prisoner of Azkaban* movie). In Quidditch each team consists of seven players. Chapter four of Book 7 is titled "The Seven Potters". Lord Voldemort succeeded in splitting his soul into seven parts.
- In *The Two Towers*, the second volume of J.R.R. Tolkien's *The Lord of the Rings*, the following poem appears: "Tall ships and tall kings/Three times three/What brought them from the foundered land/Over the flowing sea?/Seven stars and seven stones/And one white tree." The "founded land" is Númenor, and the "Seven Stars" are unknown, but they may refer to a constellation, the Sickle of the Valar. The Seven Stones are the *palantíri*, the seeing-stones. The number seven was also significant to Dwarvish culture as portrayed by Tolkien: there were seven fathers of the Dwarves (as recounted in *The Silmarillion*) and the Dwarves were later given seven rings by Sauron (according to *The Lord of the Rings*).
- In *The Silmarillion*, also a Tolkien work, there are seven Lords of the Valar, and seven Ladies of the Valar; Fëanor, a central character, has seven sons: Maedhros, Maglor, Celegorm, Curufin, Caranthir, Amrod, and Amras.
- In Galician folklore, a seventh son will be a werewolf. In other folklores, after six daughters, the seventh child is to be a son and a werewolf. In other European folklores, the seventh son of a seventh son will be a child with special powers of healing and clairvoyant seeing, and in other cultures that seventh son of a seventh son would be a vampire.
- In *Fist of the North Star* (*Hokuto no Ken*), the main character, Kenshiro, is also known as "the man with seven wounds" for the seven scars on his body in the shape of the Big Dipper.
- Aleksis Kivi's "Seven Brothers", the most famous book of Finnish literature
- *Seven Pillars of Wisdom*, a book written by T.E. Lawrence
- *The Secret Seven*, name of a children's adventure book by Enid Blyton
- The book *Seven Years in Tibet*
- The manga *Eureka Seven*, based on the anime series

- The character 7 (Nana) and the organization Septimal Moon in *Loveless*
- *The Seven Habits of Highly Effective People*, a book by Stephen Covey
- Team 7 consists of the main characters in *Naruto*: Naruto Uzumaki, Sasuke Uchiha, Kakashi Hatake, and Sakura Haruno. Later in the series, Sai joined team 7 after Sasuke left Konohagakure.
- In the *One Piece* series, the Shichibukai (literally, "Seven Military Seas", known in the English versions as the "Seven Warlords of the Sea") are seven powerful pirates who work for the government.
- In the *InuYasha* series, the Shichinintai are, as their name says, a band of seven mercenaries.
- In the *Nana* series, there are many recurrent instances of the number seven ("nana" is the Japanese numeral for the English "seven"), including the name of both main characters.
- In George R.R. Martin's *A Song of Ice and Fire*, seven gods, the Mother, the Father, the Warrior, the Crone, the Smith, the Maiden, and the Stranger, are worshipped in the land of Westeros, which is made up of seven former kingdoms and often called the Seven Kingdoms. The Seven are the primary deities of Westeros.
- In Neil Gaiman's *Sandman* series, there are 7 Endless: Destiny, Death, Dream, Destruction, Despair, Desire and Delirium.
- *The Saga of Seven Suns*, a series of seven novels by Kevin J. Anderson.
- In W.E.B. Du Bois's book *The Souls of Black Folk*, he refers to "the Negro" as "the seventh son".
- In the *Septimus Heap* series, Septimus is the seventh son of a seventh son, 7 is believed to be the most magical number. There will also be 7 books in the series, along with many other things relating to the number 7.
- In the first of the three *Deltora Quest* series of books by Emily Rodda, the protagonist must collect the seven gems of the fabled Belt of Deltora: topaz, ruby, opal, lapis lazuli, emerald, amethyst, and diamond. Each of the seven gems are guarded by one of seven guardians located in one of the seven locations around Deltora: The Forests of Silence, Lake of Tears, City of the Rats, The Shifting Sands, Dread Mountain, Maze of the Beast, and Valley of the Lost.
- The Seven Rings of the Vongola Family in *Katekyo Hitman Reborn*: Sky, Storm, Rain, Sun, Thunder, Mist, and Cloud.
- *The Seven Dials Mystery* by Agatha Christie
- In *The Tales of Alvin Maker*, an alternate history fantasy series by Orson Scott Card, seventh sons are imbued with special powers, referred to as "knacks", over the physical world. The powers of a seventh son of a seventh son, the birthright of the series' main character, Alvin Smith, are especially pronounced. Men who wield these powers to create are referred to as "Makers."
- In *Toaru Majutsu no Index*, there are a total of seven Level 5 ESPers: Accelerator, Kakine teitoku, Misaka Mikoto, Mugino Shizuri, The Queen of Tokiwadai, an unknown ESPer and Sogiita Gunha.

Video games



- In Sega's *Sonic the Hedgehog* video game franchise, there are often seven Chaos Emeralds
- 7 is a number used many times by Bungie Studios in their *Halo* series and *Marathon* trilogy. 7 appears in a variety of different contexts, from the stories of the games to the raw game coding.
- The number of individual personalities serving Harman Smith as part of the group of assassins called the Killer7, hence the title of the game
- In *Kingdom Hearts* there are seven Princesses of Heart (Snow White, Cinderella, Alice, Aurora, Belle, Jasmine, and Kairi (the only original character among them)). Seven (VII) is also the number of the character Saïx, a member of the antagonists Organisation XIII from *Kingdom Hearts II*.

- In *The Legend of Zelda: Ocarina of Time*, the main quest involves awakening the seven sages of seven elements to banish evil from the land of Hyrule. Further, the number of years separating the child and adult stages of the game is seven.
- Another *Zelda* title, *The Legend of Zelda: A Link to the Past*, involves a similar quest in which the player must rescue seven maidens before confronting Ganon.
- The number of Koopalings on *Super Mario Bros. 3* and *Super Mario World*. It is also the number of worlds on *Super Mario World*, not counting the Star World or the Special course; and it is also the number of worlds on *Super Mario Bros. 2*.
- In *Paper Mario: The Thousand-Year Door*, Mario's goal is to collect the seven Crystal Stars scattered across the world.
- The 7 is a group of deadly mercenaries that kidnap the protagonist's family in the video game *Kane & Lynch: Dead Men*.
- In the *Ace Attorney* series, 7 is a recurring number. For example: there is a 7 year age gap between the main character and his assistant, there is a 7 year gap between the plots of *Ace Attorney 3* and *4*, Godot's favorite coffee blend is #107, the Chief of police, Gant's keycard number is 7777777.
- Nana (One of two Japanese readings for "seven" and also a common feminine name) is one of the supporting characters in *Mega Man X: Command Mission*.
- In *Super Mario RPG: Legend of the Seven Stars*, Mario and his gang need to collect seven stars to repair the Star Road.
- In *The World Ends with You*, one of the antagonists is a musician called "777."
- In *Final Fantasy VII* if anyone in your party's HP reaches to 7777, they will go berserk and strike the opponent a number of times at a damage rate of 7777. This is called the Lucky 7's. After the battle, however, the character's HP will be reduced to 1 to prevent this state from rolling over to another battle.
- In *Valkyria Chronicles*, you control Squad 7 of the militia force.
- *The 7th Guest*, produced by Trilobyte and released by Virgin Games in 1993[3], is an FMV-based puzzle horror video game.

Sports

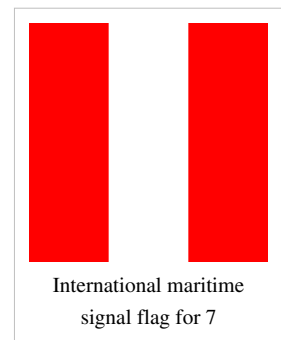
- In Ultimate Frisbee, the number of players on the field for each team
- In team handball, the number of players on each team including the goalkeeper
- In rugby league, the scrum-half/halfback
- In rugby union, the openside flanker
- In American and Canadian football, the minimum number of players who, by rule, must be lined up at the line of scrimmage on offense (otherwise the team commits the penalty of illegal formation)
- In scoring baseball, seven represents the left fielder's position
- In baseball, the 7th Inning stretch attributed to the 27th U.S. President, William Howard Taft
- The jersey number 7 has been retired by several North American sports teams in honor of past playing greats:
 - Major League Baseball
 - The Houston Astros, for likely future Hall of Famer Craig Biggio.
 - The New York Yankees, for Hall of Famer Mickey Mantle.
 - In the NFL:
 - The Chicago Bears, for Hall of Fame player, coach, and owner George Halas.
 - The Denver Broncos, for Hall of Famer John Elway.
 - The Detroit Lions, for Hall of Famer Dutch Clark.
 - The New York Giants, for Hall of Famer Mel Hein.

- The St. Louis Rams, for Hall of Famer Bob Waterfield, who played for the franchise when it was in Los Angeles.
- NBA
 - The Cleveland Cavaliers, for Bingo Smith.
 - The New Orleans Hornets, for Hall of Famer Pete Maravich. He died in January 1988, before the franchise began as the Charlotte Hornets, but his number was retired based on his years in the city with the New Orleans Jazz.
 - The Phoenix Suns, for Kevin Johnson.
 - The Utah Jazz, also for Maravich. He briefly played with the team while it was in Utah, and played five seasons with the team in its previous location of New Orleans.
- NHL
 - The Boston Bruins, for Hall of Famer Phil Esposito.
 - The Buffalo Sabres, for Rick Martin.
 - The Dallas Stars, for Neal Broten.
 - The Detroit Red Wings, for Hall of Famer Ted Lindsay.
 - The Edmonton Oilers, for Hall of Famer Paul Coffey.
 - The New York Rangers, for Hall of Famer Rod Gilbert.
 - The Philadelphia Flyers, for Hall of Famer Bill Barber.
 - The Washington Capitals, for Yvon Labre.
 - The Toronto Maple Leafs have a policy of not retiring numbers unless the player honoured either died or suffered a career-ending incident while a member of the team. Other players whose numbers would otherwise be retired instead have their numbers enshrined by the team as "Honoured Numbers", which remain in circulation for future players. The number 7 is currently honoured for Hall of Famers King Clancy and Tim Horton.
- In high-school baseball a regulation game lasts seven innings.
- In the NHL, MLB, and NBA, the maximum number of games played in a playoff series
- Rugby Sevens, a variant of rugby union and rugby league that contains only seven players per side instead of the standard 15 (union) or 13 (league)
- The Rugby World Cup Sevens, the World Cup for the union version of Sevens
- The IRB Sevens World Series, also in the union version of Sevens
- In association football the forward or winger traditionally wears the number 7
- In cross country running, a team traditionally consists of seven athletes
- In motorcycling, the racing number for the late British World Champion Barry Sheene

Other fields

- The seven days of the week
- The Kulin people of Australia living near the Dandenong Ranges traditionally have seven seasons. Some of the Native Americans of Montana also have seven seasons: chinook season, muddy spring, green summer, gold summer (or dry summer), "Indian" Summer, late fall, and cold winter.
- The United States declared Independence in the 7th month of 1776.
- Lotto Super 7, a Canadian-lottery game that had its final drawing September 18, 2009.
- 7 is the calling code of Russia. Only the North American Numbering Plan (+1) and Russia (+7) have a single-digit code.

Seven is also:



- The traditional number of Wonders of the Ancient World. There were seven, though only the Great Pyramid of Egypt still stands today.
- The figurative number of seas
- The number of chakras
- The number of basic principles of the bushido
- The Heptarchy, from the (Greek for *seven realm*, is the name applied by historians to the period (500–850 CE) in English history after the Anglo-Saxon conquest of England, derived from the seven kingdoms of Northumbria, Mercia, East Anglia, Essex, Kent, Sussex, and Wessex, which eventually merged to become the Kingdom of England during the early 10th century.
- September was the seventh month in the ancient Roman calendar, as its name indicates. After the reform that led to the current order, the seventh month is July.
- *Septidi* was the seventh day of the decade in the French Revolutionary Calendar.
- The traditional count of Basque provinces as expressed in the slogan *Zazpiak Bat*.
- Cibola was one of the legendary Seven Cities of Gold the Spanish thought existed.
- Septuplets are seven offspring resulting from the same pregnancy.
- The British fifty pence coin has 7 sides

Names and titles

- Sevens, a card game
- The Seven Virgins mountain range in Sri Lanka, which was the scene of an air disaster on December 4, 1974, involving a DC-8 Series 55F passenger jetliner operated by the charter company Martinair, which left 191 dead.
- In the *Fushigi Yuugi* series, the four beast gods each have seven warriors, the Genbu Seven, the Byakko Seven, the Seiryuu Seven, and the Suzaku Seven.
- 7UP is the name of a popular soft drink.
- 7-Eleven is the trading name of a chain of convenience stores based in the U.S.
- Seven Jeans, also known as *Seven '7' for all Mankind*, a brand of designer jeans.
- 7 (New York City Subway service), a service of the New York City Subway
- The Ultra Series has two heroes with "Seven" in their name: Ultra Seven and Ultra Seven-21.
- The circle 7 logo used by numerous ABC network O&O stations in the U.S.
- The Lotus Seven, a kit car produced by Lotus
- Windows 7, the latest release of Windows series of operating systems from Microsoft.
- BMW 7 Series, flagship luxury vehicle from German automobile manufacturer, BMW.

Notes

[1] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 82

[2] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 395, Fig. 24.67

[3] "Education writing numerals in grade 1." (<http://www.adu.by/modules.php?name=News&file=article&sid=858>)(Russian)

[4] "SI brochure, The seven SI base units" (http://www.bipm.org/en/si/si_brochure/chapter2/2-1/#2-1-2). . Retrieved 2009-09-11.

[5] "SI brochure, SI derived units" (http://www.bipm.org/en/si/si_brochure/chapter2/2-2/2-2-1.html). . Retrieved 2009-09-11.

[6] ²¹Then Peter came to Jesus and asked, 'Lord, how many times shall I forgive my brother when he sins against me? Up to seven times?' ²²Jesus answered, 'I tell you, not seven times, but seventy times seven.'

[7] Bible.org: Sermon Illustrations (http://www.bible.org/illus.php?topic_id=1510)

[8] *Encyclopædia Britannica* "Number Symbolism" (<http://www.britannica.com/EBchecked/topic/1086220/number-symbolism/248164/7>)

See also

- Septenary (numeral system)
- Septenary (Theosophy)
- Seven climes
- Year Seven (School)

References

- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group (1987): 70–71

External links

koi:7 (сизим) pnb:7

8 (number)

8	
−1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	8 eight
Ordinal	8th eighth
Numeral system	octal
Factorization	2^3
Divisors	1, 2, 4, 8
Roman numeral	VIII
Roman numeral (Unicode)	VIII, viii
Arabic	٨, 8
Amharic	፳
Bengali	৮
Chinese numeral	八, 捌
Devanāgarī	८
Tamil	௮
Hebrew	ח (Het)
Hebrew	שמונה (shmoneh)
Khmer	៨
Korean	팔
Thai	๘
prefixes	octa-/oct- (from Greek) octo-/oct- (from Latin)
Binary	1000
Octal	10
Duodecimal	8
Hexadecimal	8

8 (eight) is the natural number following 7 and preceding 9. The SI prefix for 1000^8 is yotta (Y), and for its reciprocal yocto (y). It is the root of two other numbers: *eighteen* (eight and ten) and *eighty* (eight tens). Linguistically, it is derived from Middle English *eighte*.

In mathematics

8 is a composite number, its proper divisors being 1, 2, and 4. It is twice 4 or four times 2. Eight is a power of two, being 2^3 (two cubed), and is the first number of the form p^3 . It has an aliquot sum of 7 in the 4 member aliquot sequence (8,7,1,0) being the first member of 7-aliquot tree. It is symbolized by the Arabic numeral (figure) 8.

All powers of 2 ;(2^x), have an aliquot sum of one less than themselves.

Eight is the first number to be the aliquot sum of two numbers other than itself; the discrete biprime 10, and the square number 49.

8 is the base of the octal number system, which is mostly used with computers. In octal, one digit represents 3 bits. In modern computers, a byte is a grouping of eight bits, also called an octet.

The number 8 is a Fibonacci number, being 3 plus 5. The next Fibonacci number is 13. 8 is the only positive Fibonacci number, aside from 1, that is a perfect cube.^[1]

8 and 9 form a Ruth–Aaron pair under the second definition in which repeated prime factors are counted as often as they occur.

A polygon with eight sides is an octagon. Figurate numbers representing octagons (including eight) are called octagonal numbers. A polyhedron with eight faces is an octahedron. A cuboctahedron has as faces six equal squares and eight equal regular triangles.

A cube has eight vertices.

Sphenic numbers always have exactly eight divisors.

8 is the dimension of the octonions and is the highest possible dimension of a normed division algebra.

The number 8 is involved with a number of interesting mathematical phenomena related to the notion of Bott periodicity. For example if $O(\infty)$ is the direct limit of the inclusions of real orthogonal groups $O(1) \hookrightarrow O(2) \hookrightarrow \dots \hookrightarrow O(k) \hookrightarrow \dots$ then $\pi_{k+8}(O(\infty)) \cong \pi_k(O(\infty))$. Clifford algebras also display a periodicity of 8. For example the algebra $Cl(p+8, q)$ is isomorphic to the algebra of 16 by 16 matrices with entries in $Cl(p, q)$. We also see a period of 8 in the K-theory of spheres and in the representation theory of the rotation groups, the latter giving rise to the 8 by 8 spinorial chessboard. All of these properties are closely related to the properties of the octonions.

The lowest dimensional even unimodular lattice is the 8-dimensional E_8 lattice. Even positive definite unimodular lattice exist only in dimensions divisible by 8.

A figure 8 is the common name of a geometric shape, often used in the context of sports, such as skating. Figure-eight turns of a rope or cable around a cleat, pin, or bitt are used to belay something.

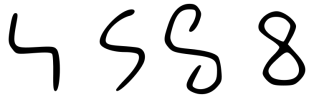
In numeral systems

Base	Numeral system	
2	binary	1000 (number)
3	ternary	22 (number)
4	quaternary	20 (number)
5	quinary	13 (number)
6	senary	12 (number)
7	septenary	11 (number)
8	octal	10 (number)
over 8 (decimal, hexadecimal)		8 (number)

In culture

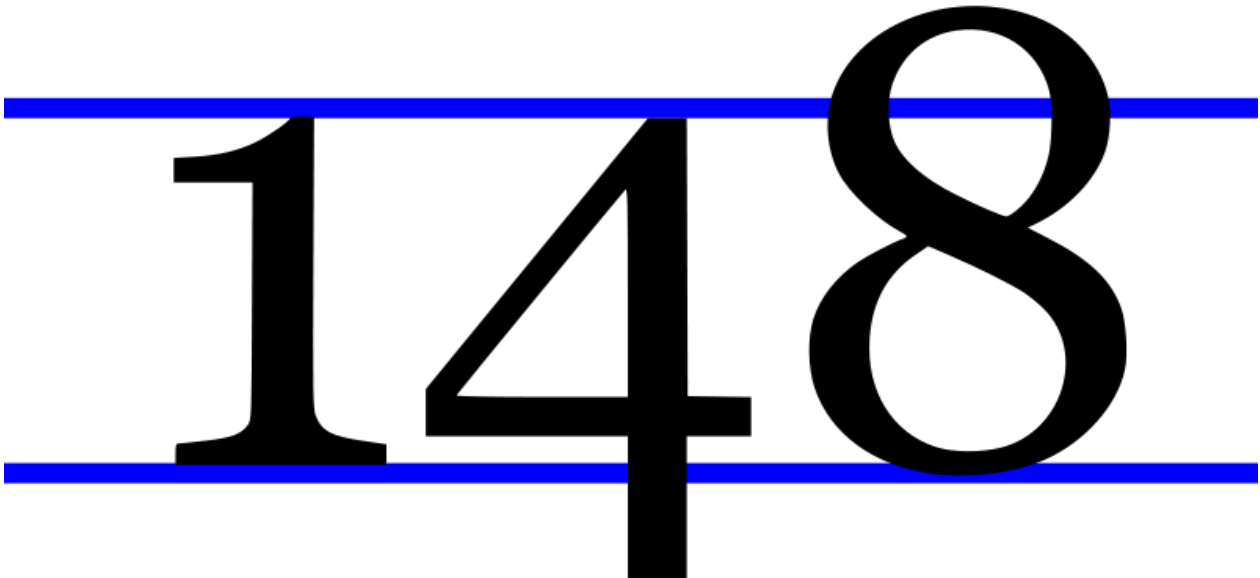
- The number eight is considered to be a lucky number in Chinese and other Asian cultures.

Evolution of the glyph



In the beginning, various groups in India wrote eight more or less in one stroke as a curve that looks like an uppercase H with the bottom half of the left line and the upper half of the right line removed. At one point this glyph came close to looking like our modern five. With the western Ghubar Arabs, the similarity of the glyph to five was banished by connecting the beginning and the end of stroke together, and it was only a matter of the Europeans rounding the glyph that led to our modern eight.^[2]

Just as in most modern typefaces, in typefaces with text figures the 8 character usually has an ascender, as, for example, in



References

- [1] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 88
- [2] Georges Ifrah, *The Universal History of Numbers: From Prehistory to the Invention of the Computer* transl. David Bellos et al. London: The Harvill Press (1998): 395, Fig. 24.68

External links

- The Octonions (<http://math.ucr.edu/home/baez/octonions/octonions.html>), John C. Baez

koι:8 (кыкьямыс) pnb:8

9 (number)

9	
-1 0 1 2 3 4 5 6 7 8 9 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	9 nine
Ordinal	9th ninth
Numeral system	nonary
Factorization	3^2
Divisors	1, 3, 9
Amharic	፩
Roman numeral	IX
Roman numeral (Unicode)	Ⅸ, ⅸ
prefixes	ennea- (from Greek) nona- (from Latin)
Binary	1001
Octal	11
Duodecimal	9
Hexadecimal	9
Arabic-Indic numeral	٩
Armenian numeral	Թ
Bengali	৯
Chinese/Japanese numeral	九 玖 (formal writing)
Devanāgarī	९ (Nao)
Greek numeral	θ´
Hebrew numeral	ט (Tet)
Tamil numeral	௯
Khmer	៩
Thai numeral	๙

9 (nine) is the natural number following 8 and preceding 10. The ordinal adjective is *ninth*.

Mathematics

Nine is a composite number, its proper divisors being 1 and 3. It is 3 times 3 and hence the third square number. 9 is a Motzkin number. It is the first composite lucky number.

Nine is the highest single-digit number in the decimal system. It is the second non-unitary square prime of the form (p^2) and the first that is odd. All subsequent squares of this form are odd. It has a unique aliquot sum 4 which is itself a square prime. 9 is; and can be, the only square prime with an aliquot sum of the same form. The aliquot sequence of 9 has 5 members (9,4,3,1,0) this number being the second composite member of the 3-aliquot tree. It is the aliquot sum of only one number the discrete semiprime 15.

There are nine Heegner numbers.^[1]

Since $9 = 3^{2^1}$, 9 is an exponential factorial.

8 and 9 form a Ruth-Aaron pair under the second definition that counts repeated prime factors as often as they occur.

A polygon with nine sides is called a nonagon or enneagon.^[2] A group of nine of anything is called an ennead.

In base 10 a number is evenly divisible by nine if and only if its digital root is 9.^[3] That is, if you multiply nine by any natural number, and repeatedly add the digits of the answer until it is just one digit, you will end up with nine:

- $2 \times 9 = 18$ ($1 + 8 = 9$)
- $3 \times 9 = 27$ ($2 + 7 = 9$)
- $9 \times 9 = 81$ ($8 + 1 = 9$)
- $121 \times 9 = 1089$ ($1 + 0 + 8 + 9 = 18$; $1 + 8 = 9$)
- $234 \times 9 = 2106$ ($2 + 1 + 0 + 6 = 9$)
- $578329 \times 9 = 5204961$ ($5 + 2 + 0 + 4 + 9 + 6 + 1 = 27$ ($2 + 7 = 9$))
- $482729235601 \times 9 = 4344563120409$ ($4 + 3 + 4 + 4 + 5 + 6 + 3 + 1 + 2 + 0 + 4 + 0 + 9 = 45$ ($4 + 5 = 9$))

$n = 3$ is the only other $n > 1$ such that a number is divisible by n if and only if its digital root is n . In base N , the divisors of $N - 1$ have this property. Another consequence of 9 being $10 - 1$, is that it is also a Kaprekar number.

The difference between a base-10 positive integer and the sum of its digits is a whole multiple of nine. Examples:

- The sum of the digits of 41 is 5, and $41 - 5 = 36$. The digital root of 36 is $3 + 6 = 9$, which, as explained above, demonstrates that it is evenly divisible by nine.
- The sum of the digits of 35967930 is $3 + 5 + 9 + 6 + 7 + 9 + 3 + 0 = 42$, and $35967930 - 42 = 35967888$. The digital root of 35967888 is $3 + 5 + 9 + 6 + 7 + 8 + 8 + 8 = 54$, $5 + 4 = 9$.

Subtracting two base-10 positive integers that are transpositions of each other yields a number that is a whole multiple of nine. Some examples:

- $41 - 14 = 27$. The digital root of 27 is $2 + 7 = 9$.
- $36957930 - 35967930 = 990000$, which is obviously a multiple of nine.

This works regardless of the number of digits that are transposed. For example, the largest transposition of 35967930 is 99765330 (all digits in descending order) and its smallest transposition is 03356799 (all digits in ascending order); subtracting pairs of these numbers produces:

- $99765330 - 35967930 = 63797400$; $6 + 3 + 7 + 9 + 7 + 4 + 0 + 0 = 36$, $3 + 6 = 9$.
- $99765330 - 03356799 = 96408531$; $9 + 6 + 4 + 0 + 8 + 5 + 3 + 1 = 36$, $3 + 6 = 9$.
- $35967930 - 03356799 = 32611131$; $3 + 2 + 6 + 1 + 1 + 1 + 3 + 1 = 18$, $1 + 8 = 9$.

Casting out nines is a quick way of testing the calculations of sums, differences, products, and quotients of integers, known as long ago as the 12th Century.^[4]

Every prime in a Cunningham chain of the first kind with a length of 4 or greater is congruent to 9 mod 10 (the only exception being the chain 2, 5, 11, 23, 47).

Six recurring nines appear in the decimal places 762 through 767 of pi. This is known as the Feynman point.

If an odd perfect number is of the form $36k + 9$, it has at least nine distinct prime factors.^[5]

Nine is the binary complement of number six:

$$9 = 1001$$

$$6 = 0110$$

Coincidentally enough, Nine, when upside-down, looks just like the number six.

Probability

In probability, the **nine** is a logarithmic measure of probability of an event, defined as the negative of the base-10 logarithm of the probability of the event's complement. For example, an event that is 99% likely to occur has an unlikelihood of 1% or 0.01, which amounts to $-\log_{10} 0.01 = 2$ nines of probability. Zero probability gives zero nines ($-\log_{10} 1 = 0$). The effectivity of processes and the availability of systems can be expressed in nines. For example, "five nines" (99.999%) availability implies a total downtime of no more than five minutes per year.

Numeral systems

Base	Numeral system	
2	binary	1001
3	ternary	100
4	quaternary	21
5	quinary	14
6	senary	13
7	septenary	12
8	octal	11
9	novenary	10
over 9 (decimal, hexadecimal)		9

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$9 \times x$	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198	207	216	225	450	900	9000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
$9 \div x$	9	4.5	3	2.25	1.6	1.5	$1.\overline{285714}$	1.125	1	0.9	$0.\overline{81}$	0.75	$0.\overline{692307}$	$0.6\overline{428571}$	0.6
$x \div 9$	$0.\overline{1}$	$0.\overline{2}$	$0.\overline{3}$	$0.\overline{4}$	$0.\overline{5}$	$0.\overline{6}$	$0.\overline{7}$	$0.\overline{8}$	1	$1.\overline{1}$	$1.\overline{2}$	$1.\overline{3}$	$1.\overline{4}$	$1.\overline{5}$	$1.\overline{6}$

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
9^x	9	81	729	6561	59049	531441	4782969	43046721	387420489	3486784401	31381059609	282429536481	2541865828329
x^9	1	512	19683	262144	1953125	10077696	40353607	134217728	387420489	1000000000	2357947691	5159780352	10604499373

Radix	1	5	10	15	20	25	30	40	50	60	70	80	90	100
	110	120	130	140	150	200	250	500	1000	10000	100000	1000000		
x_9	1	5	11 ₉	16 ₉	22 ₉	27 ₉	33 ₉	44 ₉	55 ₉	66 ₉	77 ₉	88 ₉	110 ₉	121 ₉
	132 ₉	143 ₉	154 ₉	165 ₉	176 ₉	242 ₉	307 ₉	615 ₉	1331 ₉	14641 ₉	162151 ₉	1783661 ₉		

Evolution of the glyph

According to Georges Ifrah, the origin of the 9 integers can be attributed to the ancient Indian civilization, and was adopted by subsequent civilizations in conjunction with the 0.^[6]



In the beginning, various Indians wrote 9 similar to the modern closing question mark without the bottom dot. The Kshtrapa, Andhra and Gupta started curving the bottom vertical line coming up with a 3-look-alike. The Nagari continued the bottom stroke to make a circle and enclose the 3-look-alike, in much the same way that the @ character encircles a lowercase *a*. As time went on, the enclosing circle became bigger and its line continued beyond the circle downwards, as the 3-look-alike became smaller. Soon, all that was left of the 3-look-alike was a squiggle. The Arabs simply connected that squiggle to the downward stroke at the middle and subsequent European change was purely cosmetic.

While the shape of the 9 character has an ascender in most modern typefaces, in typefaces with text figures the character usually has a descender, as, for example, in 196.

This numeral resembles an inverted 6 evolved from the letter "8". To disambiguate the two on objects and documents that can be inverted, the 9 is often underlined, as is done for the 6. Another distinction from the 6 is that it is often handwritten with a straight stem.

In sports

In baseball, 9 is the number of innings in a game.

The jersey number 9 has been retired by several North American sports teams in honor of past playing greats (or in one case, an owner):

- In Major League Baseball:
 - The Boston Red Sox, for Hall of Famer Ted Williams.
 - The Chicago White Sox, for Minnie Miñoso.
 - The New York Yankees, for Roger Maris.
 - The Oakland Athletics, for Hall of Famer Reggie Jackson.
 - The Pittsburgh Pirates, for Hall of Famer Bill Mazeroski.
 - The St. Louis Cardinals, for Hall of Famer Enos Slaughter.
- In the NBA:
 - The Atlanta Hawks, for Hall of Famer Bob Pettit.

- The Phoenix Suns, for Dan Majerle.
- The Utah Jazz, for owner Larry Miller.
- In the NHL:
 - The Boston Bruins, for Johnny Bucyk.
 - The Calgary Flames, for Lanny McDonald.
 - The Chicago Blackhawks, for Bobby Hull.
 - The Detroit Red Wings, for Gordie Howe.
 - The Edmonton Oilers, for Glenn Anderson.
 - The Montreal Canadiens, for Maurice Richard.
 - The New York Islanders, for Clark Gillies.
 - The New York Rangers, for Andy Bathgate and Adam Graves.
 - The Winnipeg Jets, also for Hull. Although the Jets moved from Winnipeg to become the Phoenix Coyotes, the Coyotes continue to honor all numbers retired by the Jets.
 - The Toronto Maple Leafs have a policy of not retiring numbers unless the player honoured either died or suffered a career-ending incident while a member of the team. Other players whose numbers would otherwise be retired instead have their numbers enshrined by the team as "Honoured Numbers", which remain in circulation for future players. The number 9 is currently honoured for Ted Kennedy and Charlie Conacher.
- No NFL team has yet retired #9.

See also

- 9 (disambiguation)
- 0.999...
- Cloud Nine

References

- [1] Bryan Bunch, *The Kingdom of Infinite Number*. New York: W. H. Freeman & Company (2000): 93
- [2] Robert Dixon, *Mathographics*. New York: Courier Dover Publications: 24
- [3] Martin Gardner, *A Gardner's Workout: Training the Mind and Entertaining the Spirit*. New York: A. K. Peters (2001): 155
- [4] Cajori, Florian (1991, 5e) *A History of Mathematics*, AMS. ISBN 0-8218-2102-4. p.91
- [5] Eyob Delele Yirdaw, " Proving Touchard's Theorem from Euler's Form (<http://arxiv.org/abs/0804.0152v1>)" ArXiv preprint.
- [6] Georges Ifrah (1985). *From One to Zero: A Universal History of Numbers*. Viking. ISBN 0-670-37395-8.

Further reading

- Cecil Balmond, "Number 9, the search for the sigma code" 1998, Prestel 2008, ISBN 3791319337, ISBN 9783791319339

koi:9 (őkмыс) pnb:9

10 (number)

<p>← 9</p> <p style="text-align: right;">11 →</p> <p style="text-align: center;">10</p>	
<p>← 10 11 12 13 14 15 16 17 18 19 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	10 ten
Ordinal	10 (tenth)
Numeral system	decimal
Factorization	$2 \cdot 5$
Divisors	1, 2, 5, 10
Roman numeral	X
Unicode symbol(s)	X, x
Greek Prefix	deca-/deka-
Latin Prefix	deci-
Binary	1010_2
Octal	12_8
Duodecimal	A_{12}
Hexadecimal	A_{16}

Chinese numeral	十, 拾
Hebrew	י (Yod)
Khmer	១០
Korean	십
Thai	๑๐
Hindi	१० (Dush)
Bangla	১০ (দশ)

10 (ten) (pronounced /ˈtɛn/ (listen)) is an even natural number following 9 and preceding 11.

In mathematics

Ten is a composite number, its proper divisors being 1, 2 and 5. Ten is the smallest noncototient, a number that cannot be expressed as the difference between any integer and the total number of coprimes below it.

Ten is the second discrete semiprime (2.5) and the second member of the (2.q) discrete semiprime family. Ten has an aliquot sum $\sigma(n)$ of 8 and is accordingly the first discrete semiprime to be in deficit. All subsequent discrete semiprimes are in deficit. The aliquot sequence for 10 comprises five members (10,8,7,1,0) with this number being the second composite member of the 7-aliquot tree.

It is the aliquot sum of only one number the discrete semiprime 14.

Ten is a semi-meandric number.

Ten is the sum of the first three prime numbers, of the four first numbers (1 + 2 + 3 + 4), of the square of the two first odd numbers and also of the first four factorials (0! + 1! + 2! + 3!). Ten is the eighth Perrin number, preceded in the sequence by 5, 5, 7.

A polygon with ten sides is a decagon, and 10 is a decagonal number. But it is also a triangular number and a centered triangular number.

Ten is the number of n-Queens Problem solutions for $n = 5$.

In numeral systems

Ten is the base of the decimal numeral system, by far the most common system of denoting numbers in both spoken and written language. Ten is the first two-digit number in decimal and thus the lowest number where the position of a numeral affects its value. Any integer written in the decimal system can be multiplied by ten by adding a zero to the end (e.g. $855 * 10 = 8550$). The reason for the choice of ten is assumed to be that humans have ten fingers (digits).

The digit '1' followed by '0' is how the value of p is written in base p . (E.g. 16 in hexadecimal is 10.)

The Roman numeral for ten is X (which looks like two V's [the Roman numeral for 5] put together); it is thought that the V for five is derived from an open hand (five digits displayed). The Chinese word numeral for ten is 十, which resembles a cross.

Counting

1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Base	Numeral system	Number
1	unary	*****
2	binary	1010
3	ternary	101
4	quaternary	22
5	quinary	20
6	senary	14
7	septenary	13
8	octal	12
9	novenary	11
10	decimal	10
over 10 (e.g., hexadecimal)		A

Ten is a Harshad number in bases 2, 3, 5, 6, 9 and all others above.

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	25	50	100	1000
$10 \times x$	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	250	500	1000	10000

Division	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
$10 \div x$	10	5	$3.\bar{3}$	2.5	2	$1.\bar{6}$	$1.428\bar{5}71$	1.25	$1.\bar{1}$	1	$0.\bar{90}$	$0.8\bar{3}$	$0.\bar{769}230$	$0.\bar{714}285$	$0.\bar{6}$
$x \div 10$	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
10^x	10	100	1000	10000	100000	1000000	10000000	100000000	1000000000	10000000000	100000000000	1000000000000	10000000000000
x^{10}	1	1024	59049	1048576	9765625	60466176	282475249	1073741824	3486784401	10000000000	25937424601	61917364224	137858491849

In science

- The atomic number of neon.
- The number of carbon atoms in decane, a hydrocarbon.
- The number of hydrogen atoms in butane, a hydrocarbon.
- The number of spacetime dimensions in some superstring theories.

Astronomy

- The New General Catalogue object ^[6] NGC 10, a magnitude 12.5 spiral galaxy in the constellation Sculptor.
- The Saros number ^[8] of the solar eclipse series which began on -2467 February 28 and ended on -1169 April 18. The duration of Saros series 10 was 1298.1 years, and it contained 73 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -2454 June 17 and ended on -1138 August 15. The duration of Saros series 10 was 1316.2 years, and it contained 74 lunar eclipses.
- Messier object M10, a magnitude 6.4 globular cluster in the constellation Ophiuchus.

In religion

- The Ten Commandments of Exodus ^[1] and Deuteronomy ^[2] are considered a cornerstone of Judaism and Christianity.
- People traditionally tithed one-tenth of their produce. The practice of tithing is still common in Christian churches today, though it is disputed in some circles as to whether or not it is required of Christians.
- In Deuteronomy 26:12, the Torah commands Jews to give one-tenth of their produce to the poor (*Maaser Ani*). From this verse and from an earlier verse (Deut. 14:22) there derives a practice for Jews to give one-tenth of all earnings to the poor ^[3].
- Ten Plagues were inflicted on Egypt in Exodus 7-12
- Jews observe the annual Ten Days of Repentance beginning on Rosh Hashanah and ending on Yom Kippur.
- In Jewish liturgy, Ten Martyrs are singled out as a group.
- There are said to be Ten Lost Tribes of Israel (those other than Judah and Benjamin)
- There are Ten Sephirot in the Kabbalistic Tree of Life
- The Bible records 10 generations between Adam and Noah, and 10 generations between Noah and Abraham

- In Judaism, ten adults are the required quorum for prayer services.

In money

- There are ten cents in a U.S. or Canadian dime, itself one tenth of a dollar. The word was shortened from *decime*.
- The denomination of Canadian paper money bearing a portrait of Sir John A. Macdonald, Canada's first Prime Minister.
- The denomination of U.S. paper money bearing a portrait of Alexander Hamilton, America's first Secretary of the Treasury.

In music

- The interval of a major or minor tenth is an octave plus a major or minor third.
- The title of quite a few albums, including recordings by Pearl Jam and LL Cool J. See **Ten (album)**.
- The number of violin sonatas composed by Ludwig van Beethoven

In sports and games

- In rugby union the fly-half wears the 10 shirt.
- In blackjack, the Ten, Jack, Queen and King are all worth 10 points.
- In ten-pin bowling 10 pins are arranged in a triangular pattern and there are 10 frames per game.
- In football (soccer), the jersey number of many players, particularly attacking midfielders.
- 'Number 10' player is most often used as a synonym for a soccer team's playmaker.
- In American Football, 10 is the number of yards the offense must advance to maintain possession in four downs.
- The highest score possible in Olympics competitions.
- In cricket, 10 is the number of wickets required to be taken by the bowling side for the batting side to be bowled out
- In Australian rules football, considered the break even amount of games won in a regular 22 game season.
- In Baseball there are always at least 10 players on the field at a time (including the batter).
- Driving a racing car at ten-tenths is driving as fast as possible, on the limit.
- In Basketball, 10 feet is the height of the goals. Also the number of players on the court (5 on each team).

In technology

- Ten-codes are commonly used on emergency service radio systems.
 - Ten refers to the "meter band" on the radio spectrum between 28 and 29.7 MHz, used by amateur radio.
 - ASCII and Unicode code point for line feed
 - In MIDI, Channel 10 is reserved for unpitched percussion instruments.
 - In the Rich Text Format specification, all language codes for regional variants of the Spanish language are congruent to 10 mod 256.
 - In Mac OS X, the F10 function key tiles all the windows of the current application and grays the windows of other applications.
 - The IP addresses in the range 10.0.0.0/8 (meaning the interval between 10.0.0.0 and 10.255.255.255) is reserved for use by Private networks by RFC 1918.
-

In other fields

- Increasing a quantity by one order of magnitude is most widely understood to mean multiplying the quantity by ten.
- A collection of ten items (most often ten years) is called a decade.
- A decapod crustacean has ten limbs.
- To reduce something by one-tenth is to *decimate*. (In ancient Rome, the killing of one in ten soldiers in a cohort was the punishment for cowardice or mutiny; or, one-tenth of the able-bodied men in a village as a form of retribution, thus causing a labor shortage and threat of starvation in agrarian societies.)



10 playing cards of all four suits

- With ten being the base of the decimal system, a scale of 1 to 10 is often used to rank things, as a smaller version of a 1-to-100 scale (as is used in percentages and wine-tasting).
- Blake Edwards' 1979 movie *10 (film)*.
- Something that scores perfectly is "a perfect ten". A person who is attractive and physically flawless is often said to be "a ten", from the idea of ranking that person's appearance and sex-appeal on a 1-to-10 scale.
- Counting from one to ten before speaking is often done in order to cool one's temper.
- In astrology, Capricorn is the 10th astrological sign of the Zodiac.
- In Chinese astrology, the 10 Heavenly Stems, refer to a cyclic number system that is used also for time reckoning.
- The ordinal adjective is *denary*.
- An online show hosted by Microsoft.^[4]
- 10 is in the name of the television show *Ben 10*
- A 1977 short documentary film *Powers of Ten* depicts the relative scale of the Universe in factors of ten (orders of magnitude).
- CBS has a game show called *Power of 10*, where the player's prize goes up and down by either the previous or next power of ten.
- There are ten official inkblots in the Rorschach inkblot test.
- The traditional Snellen chart uses 10 different letters.

Ten is:

- Number of kingdoms in Five Dynasties and Ten Kingdoms Period
- House number of 10 Downing Street
- The number of Provinces in Canada
- The designation of United States Interstate 10, a freeway that runs from California to Florida.
- Number of dots in a tetractys.
- The number of the French department Aube
- The number of regions in Ghana.

Historical years

10 A.D., 10 B.C., 1910, 2010, etc.

References

- [1] Exodus 20:2-13
- [2] Deuteronomy 5:6-17
- [3] (<http://www.tzemachdovid.org/thepracticaltorah/vayeitzei.shtml>)
- [4] (<http://www.on10.net>)

External links

koi:10 (дас) pnb:10

11 (number)

<p>← 10</p> <p style="text-align: right;">12 →</p> <p style="text-align: center;">11</p>	
<p>← 10 11 12 13 14 15 16 17 18 19 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eleven
Ordinal	11 (eleventh)
Factorization	prime
Divisors	1, 11
Roman numeral	XI
Greek Prefix	hendeca-/hendeka- (from Greek)
Latin Prefix	undeca- (from Latin)
Binary	1011 ₂
Octal	13 ₈
Duodecimal	B ₁₂
Hexadecimal	B ₁₆

11 (eleven) (pronounced /ɪˈlɛvɪn/ (listen) or English pronunciation: /ɪˈlɛvɛn/) is the natural number following 10 and preceding 12. It is the first number which cannot be represented by a human counting their eight fingers and two thumbs additively. Eleven is the smallest positive integer requiring three syllables in English, and it is also the largest prime number with a single-morpheme name in this language (although etymologically the word *eleven* originated from a Germanic compound **ainlif* meaning "one left" ^[1]).

In mathematics

Eleven is the 5th smallest prime number. It is the smallest two-digit prime number in the decimal base; as well as, of course, in undecimal (where it is the smallest two-digit number). It is also the smallest three-digit prime in ternary, and the smallest four-digit prime in binary, but a single-digit prime in bases larger than eleven, such as duodecimal, hexadecimal, vigesimal and sexagesimal. 11 is the fourth Sophie Germain prime, the third safe prime, the fourth Lucas prime, the first repunit prime, and the second Good prime. Although it is necessary for *n* to be prime for $2^n - 1$ to be a Mersenne prime, the converse is not true: $2^{11} - 1 = 2047$ which is 23×89 . The next prime is 13, with which it comprises a twin prime. 11 is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$. Displayed on a calculator, 11 is a strobogrammatic prime and a dihedral prime because it reads the same whether the calculator is turned upside down or reflected on a mirror, or both.

If a number is divisible by 11, reversing its digits will result in another multiple of 11. As long as no two adjacent digits of a number added together exceed 9, then multiplying the number by 11, reversing the digits of the product, and dividing that new number by 11, will yield a number that is the reverse of the original number. (For example: $142,312 \times 11 = 1,565,432$. $2,345,651 / 11 = 213,241$.)

Because it has a reciprocal of unique period length among primes, 11 is the second unique prime. 11 goes into 99 exactly 9 times, so vulgar fractions with 11 in the denominator have two digit repeating sequences in their decimal expansions. Multiples of eleven by one-digit numbers all have matching double digits: 00 (=0), 11, 22, 33, 44, etc. Bob Dorough, in his *Schoolhouse Rock* song "The Good Eleven", called them "Double-digit doogies" (soft g). Eleven is the Aliquot sum of one number, the discrete semiprime 21 and is the base of the 11-aliquot tree.

As 11 is the smallest factor of the first eleven terms of the Euclid–Mullin sequence, it is the twelfth term.

An eleven-sided polygon is called a hendecagon or undecagon.

In both base 6 and base 8, the smallest prime with a composite sum of digits is 11.

Any number $b+1$ is written as " 11_b " in base b , so 11 is trivially a palindrome in base 10. However 11 is a strictly non-palindromic number.

In base 10, there is a simple test to determine if an integer is divisible by 11: take every digit of the number located in odd position and add them up, then take the remaining digits and add them up. If the difference between the two sums is a multiple of 11, including 0, then the number is divisible by 11.^[2] For instance, if the number is 65,637 then $(6 + 6 + 7) - (5 + 3) = 19 - 8 = 11$, so 65,637 is divisible by eleven. This technique also works with groups of digits rather than individual digits, so long as the number of digits in each group is odd, although not all groups have to have the same number of digits. For instance, if one uses three digits in each group, one gets from 65,637 the calculation $(065) - 637 = -572$, which is divisible by eleven.

If a number is divisible by 11, so is its reverse.

Another test for divisibility is to separate a number into groups of two consecutive digits (adding a leading zero if there is an odd number of digits), and then add up the numbers so formed; if the result is divisible by eleven, the number is divisible by eleven. For instance, if the number is 65,637, $06 + 56 + 37 = 99$, which is divisible by eleven, so 65,637 is divisible by eleven. This also works by adding a trailing zero instead of a leading one: $65 + 63 + 70 = 198$, which is divisible by eleven. This also works with larger groups of digits, providing that each group has an even number of digits (not all groups have to have the same number of digits).

An easy way of multiplying numbers by 11 in base 10 is: If the number has:

- 1 digit - Replicate the digit (so 2×11 becomes 22).
- 2 digits - Add the 2 digits together and place the result in the middle (so 47×11 becomes 4 (11) 7 or 4 (10+1) 7 or (4+1) 1 7 or 517).
- 3 digits - Keep the first digit in its place for the result's first digit, add the first and second digits together to form the result's second digit, add the second and third digits together to form the result's third digit, and keep the third digit as the result's fourth digit. For any resulting numbers greater than 9, carry the 1 to the left. Example 1: 123×11 becomes 1 (1+2) (2+3) 3 or 1353. Example 2: 481×11 becomes 4 (4+8) (8+1) 1 or 4 (10+2) 9 1 or (4+1) 2 9 1 or 5291.
- 4 or more digits - Follow the same pattern as for 3 digits.

In base 10, 11 is the only integer that is not a Nivenmorphic number.

In base thirteen and higher bases (such as hexadecimal), eleven is represented as B, where ten is A. In duodecimal, however, eleven is sometimes represented as E and ten as T.

Eleven is a Størmer number, a Heegner number, and a Mills prime.

There are 11 orthogonal curvilinear coordinate systems (to within a conformal symmetry) in which the 3-variable Helmholtz equation can be solved using the separation of variables technique.

See also 11-cell.

Eleven of the thirty-five hexominoes can be folded to form cubes. Eleven of the sixty-six octiamonds can be folded to form octahedra.

In the Online Encyclopedia of Integer Sequences, the partition function is (sequence A000041 ^[3] in OEIS). The fraction of elements in this sequence that are multiples of eleven is far higher than the one-eleventh that one would expect.

According to David A. Klarner, a leading researcher and contributor to the study of polyominoes, it is possible to cut a rectangle into an odd number of congruent, non-rectangular polyominoes. Eleven is the smallest such number, the only such number that is prime, and the only such number that is not a multiple of three.

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$11 \times x$	11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176	187	198	209	220	231	242	253	264	275	550	1100	11000

Division	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15					
$11 \div x$	11	5.5	$3.\overline{6}$	2.75	2.2	$1.8\overline{3}$	$1.\overline{571428}$	1.375	$1.\overline{2}$	1.1
	1	$0.91\overline{6}$	$0.\overline{846153}$	$0.7\overline{857142}$	$0.7\overline{3}$					
$x \div 11$	$0.\overline{09}$	$0.\overline{18}$	$0.\overline{27}$	$0.\overline{36}$	$0.\overline{45}$	$0.\overline{54}$	$0.\overline{63}$	$0.\overline{72}$	$0.\overline{81}$	$0.\overline{90}$
	1	$1.\overline{09}$	$1.\overline{18}$	$1.\overline{27}$	$1.\overline{36}$					

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
11^x	11	121	1331	14641	161051	1771561	19487171	214358881	2357947691	25937421601	285311670611	3138428376721	34522712143931
x^{11}	1	2048	177147	4194304	48828125	362797056	1977326743	8589934592	31381059609	100000000000	285311670611	743008370688	1792160394037

Radix	1	5	10	15	20	25	30	40	50	60	70	80	90	100
	110	120	130	140	150	200	250	500	1000	10000	100000	1000000		
x_{11}	1	5	A_{11}	14_{11}	19_{11}	23_{11}	28_{11}	37_{11}	46_{11}	55_{11}	64_{11}	73_{11}	82_{11}	91_{11}
	$A0_{11}$	AA_{11}	109_{11}	118_{11}	127_{11}	172_{11}	208_{11}	415_{11}	$82A_{11}$	7572_{11}	6914_{11}	623351_{11}		

List of basic operations that make 11

	+	-	×	÷
0	$0 + 11$	$0 - (-11)$	N/A	N/A
1	$1 + 10$	$1 - (-10)$	1×11	$1 \div 0.\overline{09}$
2	$2 + 9$	$2 - (-9)$	2×5.5	$2 \div 0.\overline{18}$
3	$3 + 8$	$3 - (-8)$	$3 \times 3.\overline{6}$	$3 \div 0.\overline{27}$
4	$4 + 7$	$4 - (-7)$	4×2.75	$4 \div 0.\overline{36}$
5	$5 + 6$	$5 - (-6)$	5×2.2	$5 \div 0.\overline{45}$
6	$6 + 5$	$6 - (-5)$	$6 \times 1.8\overline{3}$	$6 \div 0.\overline{54}$
7	$7 + 4$	$7 - (-4)$	$7 \times 1.\overline{571428}$	$7 \div 0.\overline{63}$
8	$8 + 3$	$8 - (-3)$	8×1.375	$8 \div 0.\overline{72}$

9	$9 + 2$	$9 - (-2)$	$9 \times 1.\overline{2}$	$9 \div 0.\overline{81}$
10	$10 + 1$	$10 - (-1)$	10×1.1	$10 \div 0.\overline{90}$
11	$11 + 0$	$11 - 0$	11×1	$11 \div 1$

In science

- The atomic number of sodium.
- In chemistry, Group **11** includes the three coinage metals copper, silver, and gold known from antiquity. It also includes the superheavy element roentgenium, which was discovered only recently.
- The number of spacetime dimensions in M-theory.

Astronomy

- Apollo 11 was the first manned spacecraft to land on the Moon.
- The approximate periodicity of a sunspot cycle is 11 years.
- Messier object M11, a magnitude 7.0 open cluster in the constellation Scutum, also known as the Wild Duck Cluster.
- The New General Catalogue object ^[6]NGC 11, a spiral galaxy in the constellation Andromeda
- The Saros number ^[8]of the solar eclipse series which began on -2511 December 26 and ended on -1158 March 18. The duration of Saros series 11 was 1352.2 years, and it contained 76 solar eclipses.
- The Saros number ^[8]of the lunar eclipse series which began on -2389 June 19 and ended on -1037 September 8. The duration of Saros series 11 was 1352.2 years, and it contained 76 lunar eclipses.
- The 11th moon of Jupiter is Himalia.

In music

- The interval of an octave and a fourth is an eleventh. A complete eleventh chord has almost every note of a diatonic scale.
- The number of thumb keys on a bassoon, not counting the whisper key. (A few bassoons have a twelfth thumb key.)
- In the mockumentary *This Is Spinal Tap*, Spinal Tap's amplifiers go up to eleven.
- In Igor Stravinsky's *The Rite of Spring*, there are eleven consecutive repetitions of the same chord.
- In Tool's song *Jimmy*, the number eleven is heard numerous times in the lyrics.

In sports

- There are eleven players on a soccer team on the field at a time as well as in a cricket team. Within a school or college, the phrases "the first football XI" and "the first cricket XI" generally refer to the first (best) team currently playing. Other teams are often referred to as "the second XI" etc.
- Also in soccer, in the German language (and possibly others, in countries that predominantly use the metric system) a penalty kick is referred to as "Elfmeter" because the penalty spot is approximately 11m (precisely 12 yards) from the goal line. Historically, in the Pyramid formation that position names are taken from, a left wing-forward in football wears number 11. In the modern game, especially using the 4-4-2 formation, it is worn by a left-sided midfielder. Less commonly a striker will wear the shirt.
- There are eleven players in a field hockey team. The player wearing 11 will usually play on the left-hand side, as in soccer.

- An American football team also has eleven players on the field at one time during play. 11 is also worn by quarterbacks, kickers, punter and wide receivers in American football's NFL. The only NFL team that has retired the #11 is the New York Giants, in honor of quarterback Phil Simms.
- NFL wide receiver Larry Fitzgerald, plays with 11.
- In rugby union the left wing wears the 11 shirt. Jonah Lomu wore the number when he played for the All Blacks as he played left wing (see rugby union above).
- In rugby league, the 11 shirt is worn by a second-row forward.
- In cricket, the eleventh batsman is usually the weakest batsman, at the end of the tail. He is primarily in the team for his bowling abilities.
- The car number 11 was driven by Ayrton Senna as he won the 1988 Formula One World Championship. Also Darrell Waltrip and Cale Yarborough used the number when they won their NASCAR Winston Cup Series championships.

In the military

- The number of guns in a gun salute to U.S. Army, Air Force and Marine Corps Brigadier Generals, and to Navy and Coast Guard Rear Admirals Lower Half.
- The Military Occupational Specialty (MOS) designator given to US Army Infantry Officer as well as to enlisted personnel (AKA 11 MOS Series, or 11B, 11C, 11D, 11H, 11M, etc.)
- The number of General Orders for Sentries in the Marine Corps and United States Navy.
- A page in the Service Record Book of an enlisted Marine for writing down disciplinary actions.
- World War I ended with an Armistice on November 11, 1918, which went into effect at 11:00 am-the 11th hour on the 11th day of the 11th month of the year. Armistice Day is still observed on November 11 of each year, although it is now called Veteran's Day in the United States and Remembrance Day in the Commonwealth of Nations and parts of Europe.

In computing

- In Mozilla Firefox, Opera, Konqueror for KDE, and Internet Explorer 4 ^[4] for Windows, the function key F11 key toggles full screen viewing mode. In Mac OS X, F11 hides all open windows.
- The windowing system for Unix computers is known as X11.
- Computers of the PDP-11 series from Digital Equipment Corporation were informally referred to as "elevens".

Canada

- The stylized maple leaf on the Flag of Canada has eleven points.
- The Canadian one-dollar coin is a hendecagon, an eleven-sided polygon.
- Clocks depicted on Canadian currency, for example the Canadian fifty-dollar bill, show 11:00.
- Eleven denominations of Canadian currency are produced in large quantities.
- Due to Canada's federal nature, eleven legally distinct Crowns effectively exist in the country, with the Monarch being represented separately in each province, as well as at the federal level.

In other fields

- The number of incarnations of The Doctor in BBC sci-fi series Doctor Who is eleven.
- Three films -- *Ben-Hur* (1959), *Titanic* (1997), and *The Lord of the Rings: Return of the King* (2003) -- have each won eleven Academy Awards, including Best Picture of their respective years.
- The number eleven is important in numerology, as it is the first of the *Master Numbers*.
- Being only one hour before 12:00—midnight—the *eleventh hour* means the last possible moment to take care of something, and often implies a situation of urgent danger or emergency (see Doomsday clock).
- In Astrology, Aquarius is the 11th astrological sign of the Zodiac.
- *Ocean's Eleven* is the name of two American films.
- In Basque, *hamaika* ("eleven") has the double meaning of "infinite", probably from *amaigabe*, "endless", as in *Hamaika aldiz etortzeko esan dizut!* ("I told you infinite/eleven times to come!").
- American Airlines flight 11, a Boston-Los Angeles flight which crashed into the North Tower of the World Trade Center after being hijacked by terrorists in New York City, New York on September 11, 2001.
- The number 11 bus is a low-cost way of sightseeing in London
- In the game of blackjack, an Ace can be counted as either one or eleven, whichever is more advantageous for the player.
- 11 is the number of the French department Aude.

Historical years

11 A.D., 11 B.C., 1911, 2011, etc.

See also

- 11:11
- 11:11 (numerology)

References

- [1] <http://www.bartleby.com/61/62/E0086200.html>
- [2] Higgins, Peter (2008). *Number Story: From Counting to Cryptography*. New York: Copernicus. p. 47. ISBN 978-1-84800-000-1.
- [3] <http://en.wikipedia.org/wiki/Oeis%3Aa000041>
- [4] Keyboard Shortcuts for Internet Explorer 4 (http://www.microsoft.com/enable/products/KeyboardSearch_IE4.aspx)

pnb:11

12 (number)

← 11 13 → 12	
← 10 11 12 13 14 15 16 17 18 19 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	twelve
Ordinal	12 (twelfth)
Numeral system	duodecimal
Factorization	$2^2 \cdot 3$
Divisors	1, 2, 3, 4, 6, 12
Roman numeral	XII
Latin Prefix	duodeca-
Binary	1100_2
Octal	14_8
Duodecimal	10_{12}
Hexadecimal	C_{16}

Mathematical properties	
$\varphi(12) = 4$	$\tau(12) = 6$
$\sigma(12) = 28$	$\pi(12) = 5$
$\mu(12) = 0$	$M(12) = -2$

12 (twelve) (pronounced /ˈtwɛlv/ (ⓘ listen)) is the natural number following 11 and preceding 13.

The word "twelve" is a native English word that presumably arises from the Germanic compound *twa-lif* "two-leave", meaning that two is left after one takes away the base, ten. This compound meaning may have been transparent to speakers of Old English, but the modern form "twelve" is quite opaque. Only the remaining *tw-* hints that *twelve* and *two* are related. Etymology (Weekley, Skeat) suggests that "twelve" (similar to "eleven") consists of two parts, the first meaning "two" and the second "leftover", so a literal translation would yield "two remaining [after having ten taken]".

A group of twelve things is called a *Duodecad*. The ordinal adjective is *duodenary*, twelfth. The adjective referring to a group consisting of twelve things is *duodecuple*.

The number twelve is often used as a sales unit in trade, and is often referred to as a **dozen**. Twelve dozen are known as a gross. (Note that there are thirteen items in a *baker's dozen*.)

As shown below, the number twelve is frequently cited in the Abrahamic religions and is also central to Western calendar and units of time.

In mathematics

Twelve is a composite number, the smallest number with exactly six divisors, its proper divisors being 1, 2, 3, 4, and 6. Twelve is also a highly composite number, the next one being 24. It is the first composite number of the form p^2q ; a square-prime, and also the first member of the (p^2) family in this form. 12 has an aliquot sum of 16 (133% in abundance). Accordingly, 12 is the first abundant number (in fact a superabundant number) and demonstrates an 8 member aliquot sequence; {12,16,15,9,4,3,1,0} 12 is the 3rd composite number in the 3-aliquot tree. The only number which has 12 as its aliquot sum is the square 121. Only 2 other square primes are abundant (18 and 20).

Twelve is a sublime number, a number that has a perfect number of divisors, and the sum of its divisors is also a perfect number. Since there is a subset of 12's proper divisors that add up to 12 (all of them but with 4 excluded), 12 is a semiperfect number.

If an odd perfect number is of the form $12k + 1$, it has at least twelve distinct prime factors.

Twelve is a superfactorial, being the product of the first three factorials. Twelve being the product of three and four, the first four positive integers show up in the equation $12 = 3 \times 4$, which can be continued with the equation $56 = 7 \times 8$.

Twelve is the ninth Perrin number, preceded in the sequence by 5, 7, 10, and also appears in the Padovan sequence, preceded by the terms 5, 7, 9 (it is the sum of the first two of these). It is the fourth Pell number, preceded in the sequence by 2 and 5 (it is the sum of the former plus twice the latter).

A twelve-sided polygon is a dodecagon. A twelve-faced polyhedron is a dodecahedron. Regular cubes and octahedrons both have 12 edges, while regular icosahedrons have 12 vertices. Twelve is a pentagonal number. The densest three-dimensional lattice sphere packing has each sphere touching 12 others, and this is almost certainly true for *any* arrangement of spheres (the Kepler conjecture). Twelve is also the kissing number in three dimensions.

Twelve is the smallest weight for which a cusp form exists. This cusp form is the discriminant $\Delta(q)$ whose Fourier coefficients are given by the Ramanujan τ -function and which is (up to a constant multiplier) the 24th power of the Dedekind eta function. This fact is related to a constellation of interesting appearances of the number twelve in mathematics ranging from the value of the Riemann zeta function function at -1 i.e. $\zeta(-1)=-1/12$, the fact that the abelianization of $SL(2,Z)$ has twelve elements, and even the properties of lattice polygons.

There are twelve Jacobian elliptic functions and twelve cubic distance-transitive graphs.

The duodecimal system (12_{10} [twelve] = 10_{12}), which is the use of 12 as a division factor for many ancient and medieval weights and measures, including hours, probably originates from Mesopotamia.

In base thirteen and higher bases (such as hexadecimal), twelve is represented as C. In base 10, the number 12 is a Harshad number.

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$12 \times x$	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	600	1200	12000

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
12^x	12	144	1728	20736	248832	2985984	35831808	429981696	5159780352	61917364224	743008370688	8916100448256	106993205379072
x^{12}	1	4096	531441	16777216	244140625	2176782336	13841287201	68719476736	282429536481	1000000000000	3138428376721	8916100448256	23298085122481

In numeral systems

١٢	Arabic	ԺԲ	Armenian
ϛϛ'	Ionian Greek	ΔΙΙ	Attic Greek
יב	Hebrew		Egyptian
१२	Indian (Devanāgarī)	十二	Chinese and Japanese
௧௨	Tamil	XII	Roman and Etruscan
๑๒	Thai	IIX	Chuvash

In science

- The atomic number of magnesium in the periodic table.
- The average human has twelve cranial nerves.
- The duodenum (from Latin *duodecim*, "twelve") is the first part of the small intestine, that is about twelve inches long. More precisely, this section of the intestine was measured not in inches but in fingerwidths. In fact, in German the name of the duodenum is *Zwölffingerdarm* and in Dutch the name is *twaalvfingerige darm*, both meaning "twelve-finger bowel."
- Force 12 on the Beaufort wind force scale corresponds to the maximum wind speed of a hurricane.

Astronomy

- Messier object M12, a magnitude 8.0 globular cluster in the constellation Ophiuchus
- The New General Catalogue object ^[6]NGC 12, a magnitude 13.1 spiral galaxy in the constellation Pisces
- The Saros number ^[8] of the solar eclipse series which began on 2680 BC BC August and ended on 1129 BC BC February. The duration of Saros series 12 was 1550.5 years, and it contained 87 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on 2360 BC BC May and ended on 1062 BC BC July. The duration of Saros series 12 was 1298.1 years, and it contained 73 lunar eclipses.
- The 12th moon of Jupiter is Lysithea.
- There are also 12 starsigns and 12 Chinese zodiac signs.

In religion

The number 12 is very important in many religions, mainly Judaism, Christianity, and Islam, but some uses are to be found in pagan times.

In Antiquity there are numerous magical/religious uses of twelves.^[1] Ancient Greek religion, the Twelve Olympians were the principal gods of the pantheon. The chief Norse god, Odin, had 12 sons. Several sets of twelve cities are identified in history as a dodecapolis, the most familiar being the Etruscan League. In the King Arthur Legend, Arthur is said to have subdued 12 rebel princes and to have won 12 great battles against Saxon invaders. [source: Benet's Reader's Encyclopedia, 3d ed]

The importance of 12 in Judaism and Christianity can be found in the Bible. The biblical Jacob had 12 sons, who were the progenitors of the Twelve Tribes of Israel, while the New Testament describes twelve apostles of Jesus; when Judas Iscariot was disgraced, a meeting was held (*Acts*) to add Matthias to complete the number twelve once more. (Today, The Church of Jesus Christ of Latter-day Saints has a Quorum of the Twelve Apostles.)

The Book of Revelation contains much numerical symbolism, and a lot of the numbers mentioned have 12 as a divisor. 12:1 mentions a woman — interpreted as the people of Israel, the Church or the Virgin Mary — wearing a crown of twelve stars (representing each of the twelve tribes of Israel). Furthermore, there are 12,000 people sealed from each of the twelve tribes of Israel, making a total of 144,000 (which is the square of 12 multiplied by a thousand).

There are 12 days of Christmas. The song *Twelve Days of Christmas* came from the traditional practice of extending Yuletide celebrations over the twelve days from Christmas day to the eve of Epiphany; the period of thirteen days including Epiphany is sometimes known as Christmastide. Thus *Twelfth Night* is another name for the twelfth day of Christmas or January 5 (the eve of Epiphany). Similarly, Eastern Orthodoxy observes 12 Great Feasts.

In Shi'a Islam, there are twelve Imams, legitimate successors of the prophet Muhammad. These twelve early leaders of Islam are—Ali, Hasan, Husayn, and nine of Husayn's descendants.

Imāmah (Arabic: إمامة) is the Shī'ah doctrine of religious, spiritual and political leadership of the Ummah. The Shī'ah believe that the A'imma ("Imams") are the true Caliphs or rightful successors of Muḥammad, and Twelver and Ismā'īlī Shī'ah further that Imams are possessed of supernatural knowledge, authority, and infallibility (ʿIṣmah) as well as being part of the Ahl al-Bayt, the family of Muhammad.[1] Both beliefs distinguish the Shī'ah from Sunnis.

In Hinduism, the sun god Surya has 12 names. Also, there are 12 Petals in Anahata(Heart Chakra.)

In time

- Most calendar systems have twelve months in a year.
- The Western zodiac has twelve signs, as does the Chinese zodiac.
- The Chinese use a 12 years cycle for time-reckoning called Earthly Branches.
- There are twenty-four hours in a day in all, with twelve hours for a half a day. The hours are numbered from one to twelve for both the *ante meridiem* (a.m.) half of the day and the *post meridiem* (p.m.) half of the day. 12:00 after a.m. and before p.m. (in the middle of the day) is midday or noon, and 12:00 after p.m. and before a.m. (in the middle of the night) is midnight. A new day is considered to start with the stroke of midnight. Furthermore, the basic units of time (60 seconds, 60 minutes, 24 hours) can all perfectly divide by twelve.

Age 12

- In Judaism, 12 signifies the age a girl matures (*bat mitzvah*).

In sports

In rugby union one of the centres, most often but not always the inside centre, wears the 12 shirt, while in rugby league, one of the second-row forwards wears the number 12 jersey.

In both soccer and American Football, the number 12 can be a symbolic reference to the fans because of the support they give to the 11 players on the field. Texas A&M University reserves the number 12 jersey for a walk-on player who represents the original "12th Man", a fan who was asked to play when the team's reserves were low in a college American football game in 1922. Similarly, Bayern Munich, Hammarby, Feyenoord, Atlético Mineiro, Flamengo, Seattle Seahawks and Cork City do not allow field players to wear the number 12 on their jersey because it is reserved for their supporters.

The jersey number 12 has been retired by several North American sports teams in honor of past playing greats (or, in one case, a team's fans):

- In Major League Baseball:
 - The Tampa Bay Rays, for Hall of Famer Wade Boggs.
- In the NFL:
 - The Buffalo Bills, for Hall of Famer Jim Kelly.
 - The Miami Dolphins, for Hall of Famer Bob Griese.
 - The New York Jets, for Hall of Famer Joe Namath.
 - The San Francisco 49ers, for John Brodie.
 - The Seattle Seahawks, for their fans (the "12th Man").
 - The Dallas Cowboys have a policy of not retiring numbers. However, the team has not issued #12 since the retirement of Hall of Famer Roger Staubach.
 - The Pittsburgh Steelers currently have a policy of not retiring numbers, having retired only one number (70) in their earlier history. However, the Steelers have not issued #12 since the retirement of Hall of Famer Terry Bradshaw.
 - The New England Patriots, for Tom Brady
- In the NBA:
 - The New York Knicks, for Dick Barnett.
 - The Sacramento Kings, for Hall of Famer Maurice Stokes, who played for the team in its past incarnations as the Rochester and Cincinnati Royals before suffering a career-ending head injury in 1958.
 - The Utah Jazz, for Hall of Famer John Stockton.
- In the NHL:
 - The Detroit Red Wings, for Hall of Famer Sid Abel.
 - The Montreal Canadiens, for Hall of Famers Yvan Cournoyer and Dickie Moore.
 - The Vancouver Canucks, for Stan Smyl.
 - The Carolina Hurricanes, for Eric Staal.

In Canadian football, 12 is the maximum number of players that can be on the field of play for each team at any time.

In ten-pin bowling, 12 is the number of strikes needed for a perfect game.

In curling, the House or the circular scoring area, is 12 feet in diameter.

In technology

- ASCII and Unicode code point for form feed.
- The number of function keys on most PC keyboards (F1 through F12)
- The number of dialling keys in any standard digital telephone (1 through 9, 0, * and #)
- Microsoft's Rich Text Format specification assigns numbers congruent to $12 \bmod 256$ to variants of the French language.

In the arts

Film

Movies with the number twelve or its variations in their titles include

- *12*
- *12 Angry Men* (1957 and 1997)
- *Cheaper by the Dozen*
- *Ocean's Twelve*
- *12 Monkeys*
- *The Dirty Dozen*
- *12 Rounds*

Television

- The number twelve plays a significant role in the television franchise *Battlestar Galactica*. The characters come from the Twelve Colonies of Kobol and worship the twelve lords of Kobol. In the re-imagined series, there are also twelve models of the humanoid version of Cylons.
- *Twelve Angry Men*, the original 1954 live performance on the anthology television series *Studio One*
- "Number 12 Looks Just Like You" is an episode of the television show "The Twilight Zone".
- *Schoolhouse Rock!* portrayed an alien child using base-twelve arithmetic in the short "Little Twelvetoos" ^[2].
- *12 Oz Mouse* was an animated television show on Adult Swim.

Theatre

- *Twelfth Night* is a comedy by William Shakespeare
- *Twelve Angry Men*, by Reginald Rose, adapted from his own teleplay (see above)

Literature

- *The Twelve* is a poem by Aleksandr Blok
 - *Twelve* is a novel by Nick McDonell
 - *The Twelve Chairs* is a satirical novel by the Soviet authors Ilf and Petrov
 - *Cheaper by the Dozen* is a 1946 novel by Frank Bunker Gilbreth, Jr. and Ernestine Gilbreth Carey
 - The *Aeneid*, an epic poem by *Virgil* is divided into two halves composed of twelve books.
 - *Paradise Lost*, an epic poem by *John Milton* is divided into twelve books perhaps in imitation of the *Aeneid*
-

Music

- Twelve Girls Band
- Twelve is the number of pitch classes in an octave, not counting the duplicated (octave) pitch. Also, the total number of major keys, (not counting enharmonic equivalents) and the total number of minor keys (also not counting equivalents). This applies only to twelve tone equal temperament, the most common tuning used today in western influenced music.
- The twelfth is the interval of an octave and a fifth. Instruments such as the clarinet which behave as a stopped cylindrical pipe overblow at the twelfth.
- The twelve-tone technique (also dodecaphony) is a method of musical composition devised by Arnold Schoenberg. Music using the technique is called twelve-tone music.
- The 12" single is a vinyl record format.
- Twelfth Night is a progressive rock band
- *12 Play* is an R. Kelly album.
- The Number 12 Looks Like You is a mathcore band.
- 12 is a studio album by German singer Herbert Grönemeyer.
- Twelve Deadly Cyns...and Then Some is an album by Cyndi Lauper.
- D12 a rap group also known as the Dirty Dozen.
- Musical group named 12 Stones
- *12 Hundred* is a song by band Mushroomhead off their Savior Sorrow album.
- 12 is the 12th studio album by Keller Williams.
- "12" ("Dodeka" in Greek) is one of the most well-known hits by Anna Vissi

Art Theory

- There are twelve basic hues in the color wheel; 3 primary colors (red, yellow, blue), 3 secondary colors (orange, green & purple) and 6 tertiary colors (names for these vary, but are intermediates between the primaries and secondaries).

Games

- Twelve is a character in the *Street Fighter* video game
- The Roman form of 12 (XII) is used as the symbol of the organization MJ12 in the *Deus Ex* computer game.

In other fields

- There are 12 in a dozen.
- There are 12 ounces in a troy pound (used for precious metals), and 12 constellations in the ecliptic (or signs of the zodiac).
- In the former British currency system, there were twelve pence in a shilling.
- In astrology, there are 12 signs in the Zodiac.
- In Greek mythology, the number of labours of Heracles was increased from ten to make twelve.
- In English, twelve is the number of greatest magnitude that has just one syllable.
- There are normally twelve pairs of ribs in the human body.
- The Twelve Tables or Lex Duodecim Tabularum, more informally simply Duodecim Tabulae was the ancient legislation underlying Roman law.



- In the United States, twelve people are appointed to sit on a jury for felony trials in all but four states, and in federal and Washington, D.C. courts. The number of jurors gave the title to the play (and subsequent films) *Twelve Angry Men*.
- Twelve men have walked on Earth's moon.
- The United States of America is divided into twelve Federal Reserve Districts (Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco); American paper currency has serial numbers beginning with one of twelve different letters, A through L, representing the Federal Reserve Bank from which the currency originated.
- According to UFO conspiracy theory, Majestic 12 is a secret committee, allegedly set up by U.S. President Harry S. Truman to investigate the Roswell UFO incident and cover up future extraterrestrial contact.
- 12 is the number of the French department Aveyron
- 12 inches in a foot
- 12 face cards in a card deck.

Historical years

12 A.D, 12 B.C., 1912, 2012, etc.

See also

- Twelve
- The Twelfth

Notes

[1] The classic assembly of instances is Th. Weinreich, "Zwölfgötten" in W.H. Roscher, *Ausführliches Lexikon der Griechischen und Römischen Mythologie* vol. vi. col. 764-848, noted in Robert Drews, "Light from Anatolia on the Roman Fasces" *The American Journal of Philology* **93.1** (January 1972) pp. 40-51) p 43 note 10. The twelve lictors carried fasces of twelve rods.

[2] <http://www.schoolhouserock.tv/Little.html>

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- Schwartzman, Steven (1994). *The words of mathematics: An etymological dictionary of mathematical terms used in English*. The Mathematical Association of America. ISBN 0-88385-511-9.
- Lattice Polygons and the Number 12, Bjorn Poonen, Fernando Rodriguez-Villegas, *American Mathematical Monthly*, Vol. 107, No. 3 (Mar., 2000) , pp. 238–250 (<http://www.math.utexas.edu/users/villegas/publications/polygons.pdf>)

pnb:12

13 (number)

← 12	
13	
14 →	
← 10 11 12 13 14 15 16 17 18 19 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirteen
Ordinal	13 (thirteenth)
Numeral system	tredecimal
Factorization	prime
Divisors	1, 13
Roman numeral	XIII
Binary	1101 ₂
Octal	15 ₈
Duodecimal	11 ₁₂
Hexadecimal	D ₁₆

13 (thirteen) is the natural number after 12 and before 14. It is the smallest number with eight letters in its name spelled out in English. It is also the first of the teens – the numbers 13 through 19 – the ages of teenagers.

In speech, the numbers 13 and 30 aren't often confused. When carefully enunciated, they differ in which syllable is stressed: 13 English pronunciation: /θɜr'ti:n/ (🔊 listen) vs. 30 English pronunciation: /'θɜrti/. However, in dates such as 1300 ("thirteen hundred") or when contrasting numbers in the teens, such as *13, 14, 15*, the stress shifts to the first syllable: 13 English pronunciation: /'θɜrti:n/.

Strikingly similar folkloric aspects of the number 13 have been noted in various cultures around the world: one theory is that this is due to the cultures employing lunar-solar calendars (there are approximately 12.41 lunations per solar year, and hence 12 "true months" plus a smaller, and often portentous, thirteenth month). This can be witnessed, for example, in the "Twelve Days of Christmas" of Western European tradition.^[1]

In mathematics

The number 13 is the sixth prime number, and the smallest emirp (prime which is a different prime when reversed).^[2] It is also a Fibonacci number.

Since $5^2 + 12^2 = 13^2$, (5, 12, 13) forms a Pythagorean triple.

There are 13 Archimedean solids, and a standard torus can be sliced into 13 pieces with just 3 plane cuts.^[2]

List of basic calculations

Multiplication	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	50	100	1000
$13 \times x$	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	650	1300	13000

Exponentiation	1	2	3	4	5	6	7	8	9	10	11	12	13
13^x	13	169	2197	28561	371293	4826809	62748517	815730721	10604499373	137858491849	1792160394037	23298085122481	302875106592253
x^{13}	1	8192	1594323	67108864	1220703125	13060694016	96889010407	549755813888	2541865828329	10000000000000	34522712143931	106993205379072	302875106592253

In religion

Hinduism

On thirteenth day of death a feast is organized. It is believed to be organized for the peace of the departed soul. In Hindi (language spoken by the people of India) it is known as "Tehranvi". As per Hindu astrology, it is considered auspicious to name a baby girl on the 13th day after her birth.

Christianity

The apparitions of the Virgin of Fátima in 1917 were claimed to occur on the 13th of six consecutive months.^[3]

Sikhism

According to famous Sakhi (Evidence) or story of Guru Nanak Dev Ji, when he was an accountant at a town of Sultanpur Lodhi, he was distributing grocery to people and when he gave groceries to the 13th person he stopped there because in Gurmukhi and Hindi the word 13 is called Terah, which means yours. And Guru Nanak kept on saying, "Yours, yours, yours..." remembering God. People reported to the emperor that Guru Nanak was giving out free food to the people. When treasures were checked, there was more money than before.

The Vaisakhi which commemorates the creation of "Khalsa" or pure Sikh was celebrated on April 13 for many years.

Judaism

- In Judaism, 13 signifies the age at which a boy matures and becomes a Bar Mitzvah (Age of 12 for Girls, or Bat Mitzvah).
- The number of principles of Jewish faith according to Maimonides
- According to the Torah, God has 13 Attributes of Mercy
- The number of circles, or "nodes", that make up Metatron's Cube in Kaballistic teachings.

Other

- In Mesoamerican divination, 13 is the number of important cycles of fortune/misfortune (see Trecena).
- 13 is the age that a Pagan or Wiccan usually starts to learn Witchcraft.
- Traditionally, there are 13 witches in a Wiccan coven.

Unlucky 13

The number 13 is associated with bad luck in some countries, and even has a specifically recognized phobia, Triskaidekaphobia, a word which was coined in 1911. Friday the 13th has been considered an unlucky day since the 1800s, as a combination between an unlucky day, Friday, and the number 13. Another theory as to why the date and number 13 is considered unlucky is that, on the day of Friday the 13th after the final Crusade the pope had sent out men to capture and burn alive the last 13 Knights Templar in order to put an end to the Crusades.

Another theory states that the number 13 is unlucky because, when in years where there were 13 full moons instead of 12, it made it difficult for the monks who were in charge of the calendars. "This was considered a very unfortunate circumstance, especially by the monks who had charge of the calendar of thirteen months for that year, and it upset the regular arrangement of church festivals. For this reason thirteen came to be considered an unlucky number."^[4]

Lucky 13

In Sikhism, the number 13 is considered a special number since 13 is *tera* in Punjabi, which also means "yours" (as in, "I am yours, O Lord"). The legend goes that when Guru Nanak Dev was taking stock of items as part of his employment with a village merchant, he counted from 1 to 13 (in Punjabi) as one does normally; and thereafter he would just repeat "tera", since all items were God's creation. The merchant confronted Guru Nanak about this, but found everything to be in order after the inventory was checked. April 13 also usually turns out to be Vaisakhi every year, which is the Sikh New Year and the major Sikh Holiday.

Several successful sports figures have worn the number 13. Ozzie Guillén, manager of the 2005 World Series Champion Chicago White Sox, has worn the number throughout his baseball career. Alex Rodriguez began wearing it upon joining the New York Yankees (three, the number he had previously worn, is retired by the Bronx Bombers to honor Babe Ruth). Dan Marino, an American football player known for passing the 2nd most yards in NFL history, wore the number 13. Basketball great Wilt Chamberlain wore the number 13 on his jersey throughout his NBA career. Also, FIBA rules require a player to wear the number in international competitions (only numbers from 4 to 15 could be worn, and as there are 12 players, one must wear 13); Chris Mullin, who wore #20 in college and #17 in the NBA, wore #13 for both (1984 and 1992) of his Olympic appearances. Shaquille O'Neal wore #13 in 1996; Tim Duncan wore #13 in 2004. Steve Nash is currently wearing it for the Phoenix Suns. Yao Ming wore it in the 2008 Olympics in Beijing. Mats Sundin, Pavel Datsyuk, Bill Guerin, and Michael Cammalleri wear 13 in the NHL. One of Iceland's all time best handball players, Sigurður Sveinsson, wore the number 13 when he played for the national team. In association football, both Gerd Müller and Michael Ballack have favoured the number 13, among others.

In Italy, 13 is also considered to be a lucky number, although in Campania the expression 'tredici' (meaning 13) is said when one considers their luck to have turned for the worse.

Colgate University also considers 13 to be a lucky number. They were founded in 1819 by 13 men with 13 dollars, 13 prayers, and 13 articles. (To this day, members of the Colgate community consider the number 13 a good omen.) In fact, the campus address is 13 Oak Drive in Hamilton, NY and the all men a cappella group is called the Colgate 13.

In the Mayan Tzolk'in calendar, trecenas mark cycles of 13 day periods. The pyramids are also set up in 9 steps divided into 7 days and 6 nights, 13 days total.

Age 13

- It is at this point that a person becomes a teenager.
- In the US youngest age a minor can watch a PG-13 rated movie by the MPAA without the recommendation of parental guidance or parental consent.
- Youngest age a minor can rent or purchase a T rated game by the ESRB without parental (age 18 or older) consent.

In sports

There are 13 players in a rugby league team.

In other fields


- Cards in a suit.
- The number of colonies that formed the United States. The original flag had thirteen stars, one for each state. New stars have since been added whenever a new state joins the union, but the idea of adding stripes for new states was soon dropped, so the American flag to this day has thirteen horizontal stripes: six white ones and seven red ones.
- The number of guns in a gun salute to U.S. Army, Air Force and Marine Corps Major Generals, and Navy and Coast Guard Rear Admirals Upper Half.
- The number of steps in the gallows.
- The number of loaves in a "baker's dozen"
- Julius Caesar crossed the Rubicon with the 13th Legion, marking the beginning of Caesar's civil war and the eventual death of the Roman Republic.
- In some countries, the number 13 is considered unlucky and building owners will sometimes purposefully omit a floor or suite so numbered.^[5] The fear of the number 13 is called Triskaidekaphobia.
- Trece is the Spanish word for thirteen; the number 13 is used to identify members of 13th Sureños – chicano gang members in the U.S. that identify themselves with la Eme – the Mexican Mafia.
- 13 steps is a paragraph of the Final Document (agreed by consensus) of the 2000 Review Conference of the Nuclear Non-Proliferation Treaty.
- Apollo 13 was the only unsuccessful mission by the United States of America intended to land humans on the moon. The mission launched on April 11, 1970 at 13:13 CST. The explosion of an oxygen tank on April 13, 1970 caused severe problems before the astronauts were able to return to Earth.
- The main character in the manga *Black Cat*, Train Heartnet, has the Roman numeral thirteen on his chest.
- Jason Robert Brown's most recent Broadway musical, *Thirteen (13)*, stars a cast of 13 teenagers.
- Thirteen, stylised as Th13teen, is a steel roller-coaster at Alton Towers theme park in England. The name is a play on superstition around the number, as the ride contains a surprise element, unique from any other coaster in the world.

References

- [1] Frazier, King of the Bean, and the Festival of Fools. Cited in Thompson, Tok. 2002. The thirteenth number: Then, there/ here and now. (<http://sms.zrc-sazu.si/En/SMS5/Thompson5.html>) 'Studia Mythological Slavica 5, 145-159.
- [2] Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers*, London: Penguin Group. (1987): 67-71.
- [3] Rosemary Guiley, *The Guinness Encyclopedia of Ghosts and Spirits*, 1994, p. 215, ISBN 0851127487.
- [4] https://web.archive.org/web/20101123200219/http://news.yahoo.com/s/space/20101119/sc_space/thereallystrangestorybehindsundaysbluemoon
- [5] Fleischman, Sid (August 19, 2007). "The 13th Floor: A Ghost Story" (<http://www.washingtonpost.com/wp-dyn/content/article/2007/08/18/AR2007081800890.html>). The Washington Post Company. . Retrieved 2008-07-26.

14 (number)

← 13 15 → 14	
← 10 11 12 13 14 15 16 17 18 19 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	fourteen
Ordinal	14 (fourteenth)
Numeral system	tetradecimal
Factorization	$2 \cdot 7$
Divisors	1, 2, 7, 14
Roman numeral	XIV
Binary	1110_2
Octal	16_8
Duodecimal	12_{12}
Hexadecimal	E_{16}

14 (fourteen) is the natural number following 13 and preceding 15. In speech, the numbers 14 and 40 are often confused. When carefully enunciated, they differ in which syllable is stressed: 14 English pronunciation: /fɔər'ti:n/ ( listen) vs 40 English pronunciation: /'fɔrti/.^[1] However, in dates such as 1492 or when contrasting numbers in the teens, such as 13, 14, 15, the stress shifts to the first syllable: 14 English pronunciation: /'fɔɜrti:n/.

In mathematics

Fourteen is a composite number, its divisors being 1, 2, 7 and 14.

14 is the 3rd discrete semiprime (2 . 7) and the 3rd member of the (2,q) discrete semiprime family. The number following 14—15 is itself a discrete semiprime and this is the first such pair of discrete semiprimes. The next example is the pair commencing 21.

The aliquot sum $\sigma(n)$ of 14 is 10, also a discrete semiprime and this is again the first example of a discrete semiprime having an aliquot sum in the same form. 14 has an aliquot sequence of 6 members (14,10,8,7,1,0) 14 is the third composite number in the 7-aliquot tree.

Fourteen is itself the Aliquot sum of two numbers; the discrete semiprime 22, and the square number 169.

It is the base of the tetradecimal notation.

In base fifteen and higher bases (such as hexadecimal), fourteen is represented as E.

Fourteen is the sum of the first three squares, which makes it a square pyramidal number.

This number is the lowest even n for which the equation $\varphi(x) = n$ has no solution, making it the first even nontotient (see Euler's totient function).

14 is a Catalan number, the only semiprime among all Catalan numbers.

Take a set of real numbers and apply the closure and complement operations to it in any possible sequence. At most 14 distinct sets can be generated in this way. This holds even if the reals are replaced by a more general topological space. See Kuratowski's closure-complement problem.

Fourteen is a Keith number in base 10: 1, 4, 5, 9, 14, 23, 37, 60, 97, 157...

Fourteen is an open meandric number.

Fourteen is a Companion Pell number.

According to the Shapiro inequality 14 is the least number n such that there exist x_1, x_2, \dots, x_n such that

$$\sum_{i=1}^n \frac{x_i}{x_{i+1} + x_{i+2}} < \frac{n}{2}$$

where $x_{n+1} = x_1, x_{n+2} = x_2$.

There are fourteen possible Bravais lattices that fill three-dimensional space.

The cuboctahedron, the truncated cube, and the truncated octahedron each have fourteen faces. The rhombic dodecahedron, which tessellates 3-dimensional space and is the dual of the cuboctahedron, has fourteen vertices. The truncated octahedron, which also tessellates 3-dimensional space, is the only permutohedron.

In science

Chemistry

- The atomic number of silicon
- The approximate atomic weight of nitrogen
- The maximum number of electrons that can fit in an f sublevel

Astronomy

- Messier object M14, a magnitude 9.5 globular cluster in the constellation Ophiuchus
- The New General Catalogue object ^[6] [NGC 14, a magnitude 12.5 irregular galaxy in the constellation Pegasus
- The Saros number ^[7] of the solar eclipse series which began on July 31, 2568 B.C. and ended on February 6, B.C. 1035. The duration of Saros series 14 was 1532.5 years, and it contained 86 solar eclipses
- The Saros number ^[8] of the lunar eclipse series which began on June 1, 2230 B.C. and ended on July 19, 932 B.C. The duration of Saros series 14 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- The number of Stations of the Cross.
- The Fourteen Holy Helpers were a group of saints formerly venerated together by Roman Catholics.
- The number of muqatta'at in the Qur'an.
- The number of Infallibles (Masoomeen) in Shia Ithna-Asheri Islam.
- The number of pieces the body of Osiris was torn into by his fratricidal brother Set.

Age 14

- This is the youngest age a person could watch a TV-14 rated show without consent from a legal guardian.
- Age 14 is the earliest that the emancipation of minors can occur in the U.S.
- Minimum age a person can purchase, rent or buy tickets to a 14A rated movie in Canada without an adult. Rating are provincial, so ratings may vary. A movie can be 14A in one or some provinces and PG in other provinces. A movie can also be rated 14A in one or some provinces and 18A in other provinces. Quebec has a different rating system for films.
- Youngest age in Canada a person can watch a 14+ rated show without consent from a legal guardian.
- Minimum age at which one can view, rent, purchase, or buy tickets to an 18A rated movie with an accompanying adult in the Canadian provinces of the Maritimes and Manitoba.
- Minimum age at which one can work in many U.S states. Some require parental consent while others don't.
- Minimum age at which one can work in most Australian states with parent's consent.
- Minimum age at which one can drive a vehicle with a driver's license (with supervision of an adult over 18 years of age, and with a valid, unmarked driver's license, and at least 365 days of experience driving an actual automobile) in the U.S.
- The minimum age limit to drive a 50cc motorbike in Italy.

In sports

- Retired number of AFC Ajax and FC Barcelona player Johan Crujff.
- Retired number of former baseball players Jim Rice, Pete Rose, Jim Bunning, and Ernie Banks
- The G-14 is a now-defunct union of eighteen football clubs.
- The Top 14 is the highest-level league in French rugby union.
- In rugby union the right wing wears the 14 shirt.
- The car number of A.J. Foyt when he won the Indianapolis 500 in 1967 and 1977.
- Two time NASCAR Sprint Cup Series Champion Tony Stewart drives the #14 Old Spice / Office Depot Chevrolet for his own team Stewart Haas Racing.
- Retired number of Boston Celtics point guard Bob Cousy.
- One Day International number of Australian Cricket captain Ricky Ponting
- Jordan Eberle Canadian World Junior Hockey Championship Teams 09,10

Neo-Nazi symbol

Among White Nationalists, 14 signifies the "Fourteen Words"—"We must secure the existence of our people and a future for white children"—attributed to David Lane. Often found in combination with 88 (1488, 8814, 14/88, etc.).

In other fields

Fourteen is:

- The number of days in a fortnight.
- In traditional British units of weight, the number of pounds in a stone.
- A number 'encoded' in much of the music of Johann Sebastian Bach. Bach may have considered this number a sort of signature, since given $A = 1$, $B = 2$, $C = 3$, etc., then $B + A + C + H = 14$. (See also 41)
- The number of points outlined by president Woodrow Wilson for reconstructing a new Europe following World War I, see Fourteen Points.
- The section that you go to when you die in the Grailquest books
- The number of legs on a woodlouse, as well as on *Hallucigenia*.
- A common designation for the thirteenth floor in many buildings for superstitious reasons

- The number of points in a proposed republican constitution of the United Kingdom
- The number of lines in a sonnet.
- The Number 14 airship by Alberto Santos Dumont that was used to test the aerodynamics of his 14-bis airplane.
- The number of the French department Calvados

Historical years

14 A.D., 14 B.C., 1914 etc.

References

- [1] The vowels of the syllables *four-* and *for-* are identical in many dialects, such as General American and younger speakers of Received Pronunciation.

pnb:14

15 (number)

← 14	
15	
16 →	
← 10 11 12 13 14 15 16 17 18 19 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	fifteen
Ordinal	15 (fifteenth)
Factorization	$3 \cdot 5$
Divisors	1, 3, 5, 15
Roman numeral	XV
Binary	1111_2
Octal	17_8
Duodecimal	13_{12}
Hexadecimal	F_{16}
Hebrew	ט"ו (Tet Vav)

15 (fifteen) is the natural number following 14 and preceding 16. In English, it is the smallest natural number with seven letters in its spelled name.

In speech, the numbers 15 and 50 are often confused. When carefully enunciated, they differ in which syllable is stressed: 15 English pronunciation: /fɪfˈtiːn/ vs 50 English pronunciation: /ˈfɪfti/. However, in dates such as 1500 ("fifteen hundred") or when contrasting numbers in the teens, the stress generally shifts to the first syllable: 15 English pronunciation: /ˈfɪftiːn/.

In mathematics

Fifteen is a triangular number, a hexagonal number, a pentatope number and the 4th Bell number. Fifteen is the double factorial of 5. It is a composite number; its proper divisors being 1, 3 and 5. With only two exceptions, all prime quadruplets enclose a multiple of 15, with 15 itself being enclosed by the quadruplet (11, 13, 17, 19). 15 is also the number of supersingular primes.

15 is the 4th discrete semiprime (3.5) and the first member of the (3.q) discrete semiprime family. It is thus the first odd discrete semiprime. The number proceeding 15; 14 is itself a discrete semiprime and this is the first such pair of discrete semiprimes. The next example is the pair commencing 21.

The aliquot sum of 15 is 9, a square prime 15 has an aliquot sequence of 6 members (15,9,4,3,1,0). 15 is the fourth composite number in the 3-aliquot tree. The abundant 12 is also a member of this tree. Fifteen is the aliquot sum of the consecutive 4-power 16, and the discrete semiprime 33.

15 and 16 form a Ruth-Aaron pair under the second definition in which repeated prime factors are counted as often as they occur.

Fifteen is the magic constant of the unique order-3 normal magic square:

8	1	6
3	5	7
4	9	2

15 is the smallest number that can be factorized using Shor's quantum algorithm.

There are 15 solutions to Zám's problem of length 7.

15 is a repdigit in binary (1111). In hexadecimal, as well as all higher bases, fifteen is represented as F.

In science

- The atomic number of phosphorus.
- Group 15 of the periodic table are sometimes known as the "Pnictogens".

In Pakistan

15 Madadgar is designated as an emergency number in Pakistan, for mobile phones, similar to the international GSM emergency number 112, if 112 is used in Pakistan, then the call is routed to 15. 112 can be used in an emergency even if the phone is locked and does not have a sim-card in it.

In religion

- In the Hebrew numbering system, the number 15 is not written according to the usual method, with the letters that represent "10" and "5" (י-ה, *yodh* and *heh*), because those spell out one of the Jewish names of God. Instead, the date is written with the letters representing "9" and "6" (ט-ו, *teth* and *vav*)
- Passover begins on the 15th day of the Hebrew month of Nisan
- Sukkot begins on the 15th day of the Hebrew month of Tishrei
- Tu Bishvat is a Jewish holiday occurring on the 15th of the Hebrew month of Shevat
- Shushan Purim (the day on which Purim is celebrated in Jerusalem and a few other cities in Israel) occurs on the 15th day of the Hebrew month of Adar
- Tu B'Av is a minor Jewish holiday occurring on the 15th day of the Hebrew month of Av

In sports

- In tennis, the number 15 represents the first point gained in a game.
- In Rugby Union the full back wears the number 15, it is also the number of players on the field.

The age 15

Age 15 is:

- The age of a quinceañera, a Hispanic girl celebrating her fifteenth birthday. Thus, Spanish bingo callers might refer to the number 15 as *la niña bonita* (the beautiful girl).
- The age for obtaining a driver's (or learner's) permit in certain jurisdictions, including some where the age for a driver's license is sixteen.
- In the UK a minor can be sent to prison to await trial at the age of 15.
- In Sweden and Denmark it's the legal age for sexual intercourse.
- In the UK it is the legal age to watch a BBFC "15" rated film in a cinema or purchase a "15" rated film or video game.

Fifteen is:

- The number of days in each of the 24 cycles of the Chinese calendar.
- The number of guns in a gun salute to Army, Marine Corps, and Air Force Lieutenant Generals, and Navy and Coast Guard Vice Admirals.
- The designation of Interstate 15, a freeway that runs from California to Montana.
- The designation of U.S. Route 15, a highway that runs from South Carolina to New York.
- The number of checkers each side has in the beginning of a backgammon game.
- The 15 puzzle.
- A restaurant in London, built by celebrity chef Jamie Oliver
- 15 minutes of fame
- The 15th is a Wire song
- The number of balls in the eight ball variant of billiards
- The number of function keys on most Mac keyboards
- The number of letters in the words "uncopyrightable", "dermatoglyphics", "misconjugatedly", and "hydropneumatics", which are the longest words in the English language that do not repeat a letter.
- 15 is one of The Numbers - 4, 8, 15, 16, 23, and 42 - featured in Lost.
- The number to dial for SAMU in case of an emergency in France.
- The number of minutes in one quarter of an hour; 15 minutes past or before an hour is often known as *quarter past* and *quarter to*, respectively.
- The number of the French department Cantal
- The number corresponding to The Devil in tarot cards.



Fifteen total individuals in the mollusk species *Donax variabilis* comprise the entire coloration and patterning in their phenotypes.

Historical years

15 A.D., 15 B.C., 1715, 1815, 1915, 2015,

References

- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 91 - 93
pnb:15

16 (number)

<p>← 15</p> <p style="text-align: right;">17 →</p> <p style="text-align: center;">16</p>	
<p>← 10 11 12 13 14 15 16 17 18 19 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	sixteen
Ordinal	16 (sixteenth)
Numeral system	hexadecimal
Factorization	2^4
Divisors	1, 2, 4, 8, 16
Roman numeral	XVI
Binary	10000_2
Octal	20_8
Duodecimal	14_{12}
Hexadecimal	10_{16}
Hebrew	ט"ז (Tet Zayin)

16 (sixteen) is the natural number following 15 and preceding 17. 16 is a composite number, and a square number, being $4^2 = 4 \times 4$. It is the smallest number with exactly five divisors, its proper divisors being 1, 2, 4 and 8.

In speech, the numbers 16 and 60 are often confused. When carefully enunciated, they differ in which syllable is stressed: 16 English pronunciation: /sɪks'tiːn/ vs 60 English pronunciation: /'sɪksti/. However, in dates such as 1666 or when contrasting numbers in the teens, such as *15, 16, 17*, the stress shifts to the first syllable: 16 English pronunciation: /'sɪkstiːn/.

Sixteen is the fourth power of two. For this reason, 16 was used in weighing light objects in several cultures. The British used to have 16 ounces in one pound, the Chinese used to have 16 liangs in one jin. In old days, weighing was done with a beam balance to make equal splits. It would be easier to split a heap of grains into sixteen equal parts through successive divisions than to split into ten parts. Chinese Taoists did finger computation on the trigrams and hexagrams by counting the finger tips and joints of the fingers with the tip of the thumb. Each hand can count up to 16 in such manner. The Chinese abacus uses two upper beads to represent the 5's and 5 lower beads to represent the 1's, the 7 beads can represent from a hexadecimal digit from 0 to 15 in each column.

In mathematics

As a power of 2 it has an aliquot sum one less than itself; 15, and is the fifth composite member of the 3-aliquot tree having the 7 member aliquot sequence (16, 15, 9, 4, 3, 1,0).

Sixteen is the first number to be the aliquot sum of a lesser number; 12, it is also the aliquot sum of the greater number; the discrete semiprime, 26. It is the fourth power of two.

Sixteen is the only integer that equals m^n and n^m , for some unequal integers m and n ($m = 4$, $n = 2$, or vice versa). It has this property because $2^2 = 2 \times 2$. It is also equal to 3_2 (see tetration).

15 and 16 form a Ruth–Aaron pair under the second definition in which repeated prime factors are counted as often as they occur.

Since it is possible to find sequences of 16 consecutive integers such that each inner member shares a factor with either the first or the first member, 16 is an Erdős–Woods number. The smallest such range of 16 consecutive integers is from 2184 to 2200.^[1]

16 is a centered pentagonal number.

16 is the base of the hexadecimal number system, which is used extensively in computer science.

16 appears in the Padovan sequence, preceded by the terms 7, 9, 12 (it is the sum of the first two of these).

In science

- The atomic number of sulfur.
- Group 16 of the periodic table are the Chalcogens.

Age 16

- Sixteen is the minimum age for being allowed an official beginners driver's license with parental consent in many U.S. states and in Canada. In Australia, Iceland, Norway and the Isle of Man, it is the age one can begin to get a learner's licence.
- In some states in the U.S, and some provinces in Canada, it is the age one can obtain a learner's permit.
- Sixteen is the minimum age for getting an adult job in most states and provinces across the globe.
- Sixteen is the minimum age that one can drop out of school in most states of the US (however, restrictions apply and vary depending on state).
- In the United States, female sixteen year olds earn the right to privacy laws surrounding OBGYN practices.
- In the Netherlands, Belgium, Switzerland and Italy, it is the legal minimum age for a person to purchase any tobacco product.
- Sixteen is the age of consent for many jurisdictions around the world.
- For its "coming of age" significance, this age has inspired the titles of many songs, such as "*Happy Birthday Sweet Sixteen*", "*You're Sixteen*", "*Sweet Sixteen*", "*U16 Girls*" "*Sweet Little Sixteen*" and "*Sixteen Candles*".
- Sixteen is the minimum age to get married with parental consent in many countries and without parental consent in Scotland.
- Sixteen is the legal drinking age in France, Germany, Belgium, Austria, Italy, the Netherlands and Portugal.
- In the Netherlands, sixteen is the age when all adult rights are granted, but the age of majority is 18.
- Minimum age at which one can buy, rent, purchase, buy tickets to, or view a 16+ rated movie in the province of Quebec. It is also the minimum age at which one can accompany a minor under 13 while buying, renting, or purchasing tickets to a 13+ rated movie in the province of Quebec.
- Minimum age at which one can donate blood with parental consent in many states.
- Minimum age at which one can obtain a 10 year passport in the United States and Australia.
- Minimum age at which one can join the Armed Forces in the United Kingdom.

In sports

Auto Racing

- Greg Biffle is currently the driver of the number 16 car in the NASCAR Sprint Cup Series.

Baseball

- In Major League Baseball, the number 16 has been retired for the pitchers Whitey Ford, Ted Lyons, and Hal Newhouser.

Football (American)

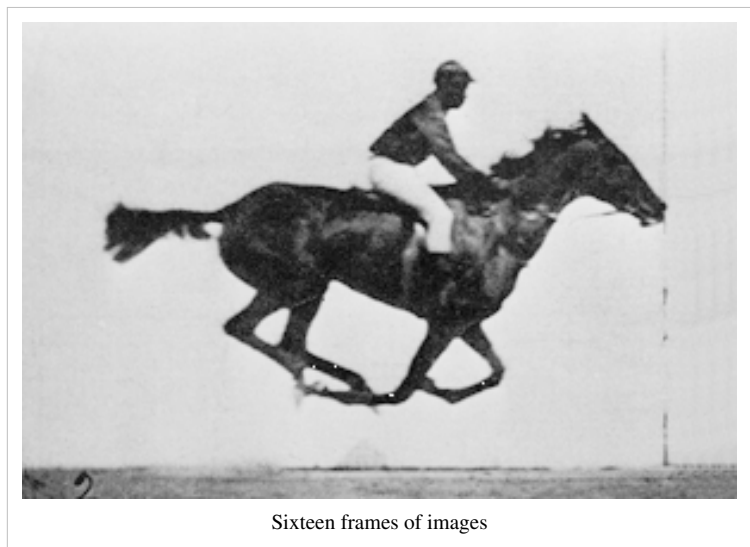
- Peyton Manning wore number 16 at the University of Tennessee which was retired by the school in 2006.
- Joe Montana wore number 16 while winning four Super Bowls with the San Francisco 49ers.
- The 2007 New England Patriots won 16 games in the regular season
- The number of teams The University of Alabama at Tuscaloosa currently has on probation.

Hockey (Ice)

- The number 16 has been retired by the following teams:
 - Philadelphia Flyers, in honor of Bobby Clarke
 - St. Louis Blues, in honor of Brett Hull
 - Montreal Canadiens, in honor of Henri Richard
 - Vancouver Canucks, in honor of Trevor Linden
 - Detroit Red Wings, in honor of Vladimir Konstantinov
 - Los Angeles Kings, in honor of Marcel Dionne

In other fields

- The current Roman Catholic Pope is Pope Benedict XVI (16).
- King of France (August 1754 – 21 January 1793) Louis XVI of France
- There are sixteen ounces in an avoirdupois pound.
- There are sixteen pawns in a chess set and each player in a chess game starts with sixteen pieces
- "The Sixteen" is an English choir performing early religious music.
- Sixteen is a Polish band that represented Poland in the 1998 Eurovision Song Contest.
- The Cadillac Sixteen.
- There are sixteen different personality types in the Myers-Briggs classification system.
- A note played for one-sixteenth the duration of a whole note is called a sixteenth note or a semiquaver.
- In the 16-bit era, 16-bit microprocessor ran 16-bit applications.
- Sixteen Kingdoms, part of Chinese history.
- Canada's Yellowhead Highway is designated as Highway 16.



Sixteen frames of images

- Interstate 16 is the designation for a US interstate highway in Georgia.
- The fighter jet, the F-16 Fighting Falcon.
- 16 mm film was originally an amateur movie format, but is now used by professionals.
- 16 is a song by Green Day on their album 39/Smooth.
- The M16 rifle.
- The number 16 is the symbol of the Day of solidarity with political prisoners and victims of the Lukashenka regime in Belarus, which is commemorated on 16th of every months by demonstrations and flash mobs worldwide.
- A sixteen is a slang term for a verse in a hip hop song, which are often written in sixteen-bar stanzas.^[2]
- Android 16 of the Dragonball Z television series.
- The amount of waking hours in a day in an "8 hours of sleep" schedule.
- In the story of the Sleeping Beauty, a spell is placed on the princess that when she reaches her 16th birthday, she will "prick her finger on the spindle of a spinning wheel and die".
- 16 is the number of the French department Charente
- Many bank card numbers are 16 digits long.
- There is a No Doubt song titled "Sixteen" on the album Tragic Kingdom.
- The metalcore band Demon Hunter has a song titled "Sixteen" on their Storm the Gates of Hell album.

References

[1] R. K. Guy, *Unsolved Problems in Number Theory* New York: Springer-Verlag (2004): B28

[2] Lesson plan explaining the reasoning behind the hip-hop slang "sixteen" (<http://artsedge.kennedy-center.org/content/3656/>)

pnb:16

17 (number)

← 16	
17	
18 →	
← 10 11 12 13 14 15 16 17 18 19 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	seventeen
Ordinal	17 (seventeenth)
Numeral system	septendecimal
Factorization	prime
Divisors	1, 17
Roman numeral	XVII
Binary	10001 ₂
Octal	21 ₈
Duodecimal	15 ₁₂
Hexadecimal	11 ₁₆

17 (seventeen) is the natural number following 16 and preceding 18. It is prime.

In speech, the numbers 17 and 70 are often confused as they sound similar. When carefully enunciated, they differ in which syllable is stressed: 17 English pronunciation: /sɛvɪn'tiːn/ vs 70 English pronunciation: /'sɛvɪnti/. However, in dates such as 1789 or when contrasting numbers in the teens, such as *16, 17, 18*, the stress shifts to the first syllable: 17 English pronunciation: /'sɛvɪntiːn/.

The number 17 has wide significance in pure mathematics, as well as in applied sciences, law, music, religion, sports, and other cultural phenomena.

In mathematics

Seventeen is the 7th prime number. The next prime is nineteen, with which it forms a twin prime. 17 is the sum of the first four primes. 17 is the sixth Mersenne prime exponent, yielding 131071. 17 is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$.

17 is the third Fermat prime, as it is of the form $2^4 + 1$, and it is also a Proth prime. Since 17 is a Fermat prime, heptadecagons can be drawn with compass and ruler. This was proven by Carl Friedrich Gauss.^[1] Another consequence of 17 being a Fermat prime is that it is not a Higgs prime for squares or cubes; in fact, it is the smallest prime not to be a Higgs prime for squares, and the smallest not to be a Higgs prime for cubes.

17 is the only positive Genocchi number that is prime, the only negative one being -3 . It is also the third Stern prime.

As 17 is the least prime factor of the first twelve terms of the Euclid–Mullin sequence, it is the thirteenth term.

Seventeen is the aliquot sum of two numbers, the odd discrete semiprimes 39 and 55 is the base of the 17-aliquot tree.

There are exactly seventeen two-dimensional space (plane symmetry) groups. These are sometimes called wallpaper groups, as they represent the seventeen possible symmetry types that can be used for wallpaper.

Like 41, the number 17 is a prime that yields primes in the polynomial $n^2 + n + p$, for all positive $n < p - 1$.

In the *Irregularity of distributions* problem, consider a sequence of real numbers between 0 and 1 such that the first two lie in different halves of this interval, the first three in different thirds, and so forth. The maximum possible length of such a sequence is 17 (Berlekamp & Graham, 1970, example 63).

Either 16 or 18 unit squares can be formed into rectangles with perimeter equal to the area; and there are no other natural numbers with this property. The Platonists regarded this as a sign of their peculiar propriety; and Plutarch notes it when writing that the Pythagoreans "utterly abominate" 17, which "bars them off from each other and disjoins them".^[2]

17 is the tenth Perrin number, preceded in the sequence by 7, 10, 12.

In base 9, the smallest prime with a composite sum of digits is 17.

17 is known as the Feller number, after the famous mathematician William Feller who taught at Princeton University for many years. Feller would say, when discussing an unsolved mathematical problem, that if it could be proved for the case $n = 17$ then it could be proved for all positive integers n . He would also say in lectures, "Let's try this for an arbitrary value of n , say $n = 17$."

Similar to Feller, Prof. Vadim Khayms of Stanford University is also known to use 17 as an arbitrary value during lectures. His Computational Mathematics for Engineers course includes 17 lectures.

17 is the **least random number**^[3], according to the Hackers' *Jargon File*. There is a proven theorem that 17 is the value most likely to be picked as a "random" number when such is needed in journalism which is derived from the Feller number.^[4]

It is a repunit prime in hexadecimal (11).

It is believed that the minimum possible number of givens for a sudoku puzzle with a unique solution is 17, but this has yet to be proven.

There are 17 orthogonal curvilinear coordinate systems (to within a conformal symmetry) in which the 3-variable Laplace equation can be solved using the separation of variables technique.

17 is the first number that can be written as the sum of a positive cube and a positive square in two different ways; that is, the smallest n such that $x^3 + y^2 = n$ has two different solutions for x and y positive integers. The next such number is 65.

In science

- The atomic number of chlorine.
- The Brodmann area defining the primary visual processing area of mammalian brains.
- Group 17 of the periodic table are the Halogens.

Age 17

- In the United Kingdom, the minimum driving age for a car or van.
- In the United States, the age at which one may purchase M-rated video games according to ESRB ratings.
- Also in some of the states in the United States, seventeen is the age of consent.
- In most states of the United States and the United Kingdom, the age at which you may donate blood.
- In many countries and regions, the age at which one may obtain a driver's license.
- In the United States, the age at which one may watch, rent or purchase R rated movies without parental consent according to the MPAA film rating system.
- In the United States, the age at which one can enlist in the armed forces with Parental Permission.

- At this age one can apply for a Private Pilot Licence (however the applicant can start training at 16).

In culture

Music

- "(She's) Sexy + 17" was a 1983 Top 10 hit for Stray Cats from the album *Rant N' Rave with the Stray Cats*.
- "At Seventeen" was a 1975 hit by Janis Ian.
- "17", a song recorded by Rick James, in the album *Reflections*.
- The ratio 18/17 was a popular approximation for the equal tempered semitone during the Renaissance.
- "Seventeen" was the original name of The Beatles song "I Saw Her Standing There" which begins with the lyric "Well, she was just seventeen if you know what I mean."
- "17", a B-Side by Shiina Ringo on the "Tsumi to Batsu" single.
- The title of the song "17" by the Smashing Pumpkins. It is 17 seconds long, with no vocals, but comes with a poem which read at a standard speed will finish at the end of the song. This song is also a musical allusion to another Smashing Pumpkins work called "Blissed and Gone" which references 17 in the lines 'Sweet 17, sour 29' and 'I had no cause, just 17 days of rain'.
- "Seventeen", a song recorded by Winger.
- "17", a song by yourcodenameis:milo.
- "Seventeen", a song by Ladytron.
- "Seventeen" by Jimmy Eat World.
- "Seventeen Ain't So Sweet" a song by The Red Jumpsuit Apparatus.
- "17" a song by Kings of Leon.
- "Edge of Seventeen", a song from the 1981 album *Bella Donna* by Stevie Nicks.
- "17" by Milburn.
- 17 Hippies, German band.
- "Seventeen Forever" a song by Metro Station (band).
- *Seventeen Days*, 3rd studio album from American rock band 3 Doors Down.
- "Dancing Queen" by Abba features the line 'You are the Dancing Queen, young and sweet, only 17'.
- "All Summer Long" by Kid Rock features the line 'She was 17 but she was far from in between'.
- "Strawberry Wine" by Deana Carter features the line 'Strawberry Wine, 17, the hot July moon saw everything'.
- "God Love Her" by Toby Keith features the line 'The way a girl gets when she turns 17, kinda crazy'.
- "Sheer Heart Attack" by Queen features the line 'Well you're just 17 and all you want to do is disappear'.
- "Seventeen" is the sixth song on the album *Give Me a Wall* by ¡Forward, Russia!.
- "Hello, Seventeen" by 12012.
- "17 Again" is a song by Eurythmics as featured on their 1999 album *Peace*.
- *Seventeen Seconds* is the second studio album by The Cure, released in April 1980 by Fiction Records.
- "17 Days" was a song recorded by Prince.
- "Seventeen" is the fifth song on the album *Shaka Rock* by the Australian rock band Jet.
- "Seventeen" is the 22nd musical number on the *Repo!* soundtrack.
- "17" is a song by Moldovan singer Dan Bălan
- "17 år" (17 years) is a song by Swedish singer Veronica Maggio on her 2008 sophomore album "Och vinnaren är..." (And the winner is...).
- A song by American singer Sky Ferreira.

Film

- *Number Seventeen* (1932), directed by Alfred Hitchcock
- *Stalag 17* (1953), directed by Billy Wilder
- *Try Seventeen* (2002), directed by Jeffrey Porter
- In 2004, Volatile Films released a feature length film titled *The Significance of Seventeen* starring Cindy Taylor; one theme addressed by the film is the high incidence of the number 17 and its function as 'the most random number' as described by MIT.
- In the film *Three Days of the Condor*, the title character played by Robert Redford works in section 17 of the CIA.
- In the *Halloween* film series the number 17 frequently reappears. Primarily with the age of people Michael Myers kills. Judith Myers is killed at 17 in the start of the first film, and Laurie Strode (the main character of the first films) is 17 when Michael Myers starts hunting her.
- *17 Again* (2009), directed by Burr Steers

Print

- The title of *Seventeen*, a magazine.
- The number 17 is a recurring theme in the works of novelist Steven Brust. All of his chaptered novels have either 17 chapters or two books of 17 chapters each. Multiples of 17 frequently appear in his novels set in the fantasy world of Dragaera, where the number is considered holy.
- In *The Illuminatus! Trilogy*, the symbol for Discordianism includes a pyramid with 17 steps because 17 has "virtually no interesting geometric, arithmetic, or mystical qualities". However, for the Illuminati, 17 is tied with the "23/17 phenomenon".
- In the Harry Potter universe
 - 17 is the coming of age for wizards. It is equivalent to the usual coming of age at 18.
 - 17 is the number of Sickles in one Galleon in the British wizards' currency

Religion

- According to Leon Kass, 17 has some significant meaning (as yet not known exactly) in the book of Genesis.^[5]
- In the Yasna of Zoroastrianism seventeen chapters were written by Zoroaster himself, these are the Gathas.
- The number of the raka'ahs that Muslims perform during Salah on a daily basis.
- The number of surat al-Isra in the Qur'an.

In sports

- The most famous Ford number in the V8 Supercar championship, Driven by Dick Johnson to bring 5 Australian Touring Car Championships to his name. Now driven by son Steven Johnson.
- NASCAR driver Matt Kenseth's car number.
- The retired jersey number of former baseball pitcher Dizzy Dean.
- The number of former Chicago Cubs first baseman Mark Grace.
- The number of retired hockey player Wendel Clark
- The number of ice hockey player Chris Chaney
- The number of ice hockey player Rod Brind'Amour
- The number of ice hockey player Ilya Kovalchuk
- The number of ice hockey player Petr Sýkora
- The number of ice hockey player Jeff Carter
- The number of ice hockey player Milan Lucic
- The number of ice hockey player Chris Clark

- The number of ice hockey player Ryan Kesler
- The former number of Right Winger Jean-Pierre Dumont when he played for the Buffalo Sabres
- The number of Hall of Fame basketball player John Havlicek
- The number of New York Giants' Wide Receiver Plaxico Burress
- The number of New York Jets Wide Receiver Braylon Edwards
- The number of Toronto Blue Jays third baseman Kelly Gruber, and current first baseman Lyle Overbay
- The number that footballer Marc-Vivien Foé wore for the French clubs Lens and Lyon, retired by both clubs after his death from heart failure during a semifinal match in the 2003 FIFA Confederations Cup. Foé also wore the 17 shirt for the Cameroon national team at the time of his death.
- Real Madrid striker Ruud van Nistelrooy's shirt number
- The number that Cristiano Ronaldo wore on the Portuguese National Team, before switching to number 7 after the retirement of Luís Figo.
- The number of Manchester United winger Nani. He currently wears number 17 in the Portuguese national team
- The number that Giovani dos Santos wore on the Mexico National Team for the 2010 FIFA World Cup- South Africa.
- The number of San Diego Chargers Quarterback Philip Rivers.
- The number of Cleveland Browns Quarterback Jake Delhomme.
- The number of Washington Redskins Quarterback Jason Campbell.
- The number of Colorado Rockies first baseman Todd Helton.
- The number of Arizona Diamondbacks pitcher Brandon Webb.
- The number of NBA Championships won by the Boston Celtics.
- The number of Tuncay Şanlı in the Turkish national team while scoring against Greece in the 1-4 match in Athens.
- The number of Ken Griffey Jr. while playing for Chicago White Sox.
- The number of Ateneo Blue Eagles and GMA Network television host Chris Tiu
- The number of former Collingwood Football Club Captain Scott Burns when he played from 1995 until 2008.

In other fields

Seventeen is:

- Described at MIT as 'the least random number', according to hackers' lore. This is supposedly because in a study where respondents were asked to choose a random number from 1 to 20, 17 was the most common choice.
 - This study has been repeated a number of times, for example ^[6] and ^[7]
- The number of guns in a 17-gun salute to U.S. Army, Air Force and Marine Corps Generals, and Navy and Coast Guard Admirals.
- The number of flames emanating from the grenade cap-badge of the Grenadier Guards.
- During the Second World War, the four-engined heavy bomber as flown by the USAAF and other Allies and known as "The Flying Fortress", was also known as the B-17.
- The maximum number of strokes of a Chinese radical.
- The number of syllables in a haiku (5+7+5).
- In the Nordic countries the seventeenth day of the year is considered the *heart* and/or the *back* of winter.
- "Highway 17" or "Route 17": See List of highways numbered 17 and List of public transport routes numbered 17.
- Seventeen, also known as Lock Seventeen, an unincorporated place in Clay Township, Tuscarawas County, Ohio.
- *Seventeen* was the former name of a yacht prior to being commissioned in the US Navy as the USS Carnelian (PY-19).
- In Italian culture, the number 17 is considered unlucky. When viewed as the Roman numeral, XVII, it is then changed anagrammatically to VIXI, which in the Latin language it translates to "I have lived", the perfect implying

"My life is over." (c.f. "*Vixerunt*", Cicero's famous announcement of an execution.) Renault sold its "R17" model in Italy as "R177." See Cesana Pariol in the sport section about the name of curve 17.

- Android 17, a fictional character in the metaseries *Dragon Ball*.
- Some species of cicadas have a life cycle of 17 years (i.e. they are buried in the ground for 17 years between every mating season).
- The number of special significance to Yellow Pig's Day and Hampshire College Summer Studies in Mathematics.
- The number to call Police in France.
- Force 17, a special operations unit of the Palestinian Fatah movement.
- The number of the French department Charente-Maritime

Historical years

A.D. 17, 17 B.C., 1917, 2017, etc.

References

- [1] John H. Conway and Richard K. Guy, *The Book of Numbers*. New York: Copernicus (1996): 11. "Carl Friedrich Gauss (1777–1855) showed that two regular "heptadecagons" (17-sided polygon) could be constructed with ruler and compasses."
 - [2] Babbitt, Frank Cole (1936). *Plutarch's Moralia* (http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Plutarch/Moralia/Isis_and_Osiris*/C.html#42). V. Loeb.
 - [3] "Random numbers" (<http://www.catb.org/~esr/jargon/html/R/random-numbers.html>)
 - [4] [[Language Log (<http://itre.cis.upenn.edu/~myl/languagelog/archives/003951.html>): Another trip down Random Rd]
 - [5] For example, the patriarch Jacob lived 17 years years after his son Joseph went missing and presumed dead, and lived 17 years after their reunion in Egypt, and the lifespans of Abraham aged 175, Isaac aged 180, and Jacob aged 147 are not a coincidence. "(The sum of the factors in all three cases is 17; of what possible significance this is, I have no idea.)" Leon Kass, *The beginning of wisdom: reading Genesis*, (Simon and Schuster, 2003), ISBN 9780743242998, p. 413 n. 10 (citing Genesis 47:28), quote from p. 629 n. 18, found at Google Books ([http://books.google.com/books?id=IrgnCCtRKKoC&pg=PA413&lpg=PA413&dq=:leon+Kass"++"beginning+of+wisdom"++"17+years"&source=bl&ots=GsuYzo0y1c&sig=UeDLKEC5iOoBtDfqi0bNykbYWfQ&hl=en&ei=XDE5Sq_v14-aMrKPzIoN&sa=X&oi=book_result&ct=result&resnum=7#PPA413,M1](http://books.google.com/books?id=IrgnCCtRKKoC&pg=PA413&lpg=PA413&dq=:leon+Kass)). Retrieved June 17, 2009.
 - [6] http://scienceblogs.com/cognitivedaily/2007/02/is_17_the_most_random_number.php
 - [7] <http://blogs.discovermagazine.com/cosmicvariance/2007/01/30/the-power-of-17/>
- Berlekamp, E. R.; Graham, R. L. (1970). "Irregularities in the distributions of finite sequences". *Journal of Number Theory* **2**: 152–161. doi:10.1016/0022-314X(70)90015-6. MR0269605.

External links

- Properties of 17 (http://www.vinc17.org/d17_eng.html)
- Mathematical properties of 17 (http://www.yellowpigs.net/index.php?topic=yellowpigs/YP_seventeen) at yellowpigs.net
- 17 (<https://web.archive.org/web/20180304022642/https://www.hilmar-alquiros.de/siebzehn.htm>)

pnb:17

18 (number)

$\leftarrow 17$	
$19 \rightarrow$	
18	
$\leftarrow 10\ 11\ 12\ 13\ 14\ 15\ 16\ 17\ 18\ 19 \rightarrow$	
List of numbers — Integers	
$0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	eighteen
Ordinal	18 (eighteenth)
Numeral system	octodecimal
Factorization	$2 \cdot 3^2$
Divisors	1, 2, 3, 6, 9, 18
Roman numeral	XVIII
Binary	10010_2
Octal	22_8
Duodecimal	16_{12}
Hexadecimal	12_{16}

18 (eighteen) is the natural number following 17 and preceding 19. It equals ten and eight, twice nine, nine times two or three times six.

In speech, the numbers 18 and 80 are sometimes confused. When carefully enunciated, they differ in which syllable is stressed: 18 English pronunciation: /eɪtˈtiːn/ vs 80 English pronunciation: /ˈeɪti/. However, in dates such as 1864, or when contrasting numbers in the teens, such as *17, 18, 19*, the stress shifts to the first syllable: 18 English pronunciation: /ˈeɪttiːn/. In some dialects, such as General American, there is little confusion because the single *t* sound in 80 becomes a *d*-like flap [ɾ], whereas the double *t* sound in 18 does not.

In mathematics

Eighteen is a composite number, its proper divisors being 1, 2, 3, 6 and 9. Three of these divisors (3, 6 and 9) add up to 18, hence 18 is a semiperfect number. Eighteen is the first inverted square-prime of the form $p \cdot q^2$.

It is a heptagonal number, and as the sum of the first three pentagonal numbers, it is a pentagonal pyramidal number. It is also the sum of the totient function for the first seven integers.

Eighteen is the second abundant number with the aliquot sum of 21 (117% in abundance) in the aliquot sequence (18, 21, 11, 1, 0) thus being the first composite number in the 11-aliquot tree. Eighteen is the aliquot sum of only one number the square 289.

In base 10 it is a Harshad number.

18, aside from 0, is the only number that equals twice the sum of its decimal digits.

In science

- The atomic number of argon
- The 18-electron rule is a rule of thumb in transition metal chemistry for characterising and predicting the stability of metal complexes
- The number of years in the Saros cycle of eclipses of the sun and moon

In religion and literature

- The Hebrew word for "alive" is חַי (*chai*), which has a numerical value of 18. Consequently, the custom has arisen in Jewish circles to give donations and monetary gifts in multiples of 18 as an expression of blessing for long life.
- In Judaism, in the Talmud; Pirkei Avot (5:25), Rabbi Yehudah ben Teime gives the age of 18 as the appropriate age to get married ("*Ben shmonah esra lechupah*", at eighteen years old to the Chupah (marriage canopy)). (See Coming of age, Age of majority).
- In Ancient Roman custom the number 18 can symbolise a blood relative.
- Joseph Heller's novel *Catch-22* was originally named *Catch-18* because of the Hebrew meaning of the number, but was amended to the published title to avoid confusion with another war novel, *Mila 18*.^[1]
- There are 18 chapters in the Bhagavad Gita, which is contained in the Mahabharata, which has 18 books. The Kurukshetra War which the epic depicts, is between 18 armies (11 on the Kuru side, 7 on the Pandava).
- 18 is on the right palm of the right hand in Arabic.

As lucky or unlucky number

- In Chinese tradition, the number 18 is normally 十八 (*shí bā*), but it can also be read as 幺八 (*yāo bā*), which sounds like 要发 (*yào fā*), meaning that one is going to prosper. Thus, building floors numbered "18" are often very expensive in China. Contrastingly, though, the floor 18 of a building in Northern China is viewed as a floor to be avoided, as one can never return from the 18th level of hell.

Age 18

In many countries 18 is the age of majority. See also: 18 certificate, Coming of age, Voting age

In other fields

Eighteen is also:

- 18:00, a time on the 24-hour clock corresponding to 6:00 PM.
- A 2005 movie directed by Richard Bell and starring Brendan Fletcher and Alan Cumming.
- Bobby Labonte's car number in the NASCAR Winston Cup Series when he won the 2000 Championship. This is J. J. Yeley's car number until the end of the 2007 Nextel Cup Season. Kyle Busch took the car number in 2008.
- A 2002 album by electronic artist Moby.
- The number of holes in a stipulated round of golf
- The number of chapters into which James Joyce's epic novel *Ulysses* is divided
- Russ Wheeler's car number in the film *Days of Thunder*
- A slang term used in association football for the Penalty Area
- The number of wheels on the most common type of North American tractor-trailer truck, which are hence often called *18-wheelers*
- The customary percentage to tip the serving staff in a restaurant by groups of four or more
- The number of the French department Cher and the Turkish province Bitlis
- DVD-18 is double-sided, double-layered DVD format

- A Canon error message, see E18 error
- In neo-Nazi circles, a code word for Adolf Hitler. The number comes from the position of the letters in the alphabet: A = 1, H = 8. See also 88
- Android 18, a fictional character in the metaseries *Dragon Ball*.
- 18th Street gang, a Hispanic American gang
- The Hindu epic Mahabharata has eighteen sections, involves eighteen armies and is about a war fought over eighteen days
- In some countries the number 18 means blood (relative)
- In the Chinese mythos, Hell has 18 levels
- In Chinese folklore, the Shaolin temple had a group of 18 bronze Monks. Initiates could only be considered full graduates of Shaolin martial arts if they could defeat them in combat.
- In 1990 Megadeth released Hanger 18 as a single for the Rust in Piece Album.
- Eighteen Visions (often abbreviated to 18V), an alternative metal/metalcore band from Orange County, California.
- Eighteen Eighteen, a South African Rap artist.
- "I'm Eighteen", Alice Cooper's first Top Ten hit single, from their 1971 album *Love It to Death*.
- Eighteen is also a surname, recorded in East Anglia in the 18th century

Historical years

- **A.D. 18**
- 18 B.C.
- 1918
- 2018

See also

- Numeral system

Notes

- [1] N James. *The Early Composition History of Catch-22*. In *Biographies of Books: The Compositional Histories of Notable American Writings*, J Barbour, T Quirk (edi.) pp. 262-90. Columbia: University of Missouri Press, 1996

pnb:18

19 (number)

← 18	
20 →	
19	
← 10 11 12 13 14 15 16 17 18 19 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	nineteen
Ordinal	19 (nineteenth)
Numeral system	nonadecimal
Factorization	prime
Divisors	1, 19
Roman numeral	XIX
Binary	10011 ₂
Octal	23 ₈
Duodecimal	17 ₁₂
Hexadecimal	13 ₁₆

19 (nineteen) is the natural number following 18 and preceding 20. It is a prime number.

In English speech, the numbers 19 and 90 are often confused. When carefully enunciated, they differ in which syllable is stressed: 19 English pronunciation: /naɪnˈtiːn/ vs 90 English pronunciation: /ˈnaɪnti/. However, in dates such as 1999, and when contrasting numbers in the teens, such as *17, 18, 19*, the stress shifts to the first syllable: 19 English pronunciation: /ˈnaɪntiːn/.

Mathematics

19 is the 8th smallest prime number. The sequence continues 23, 29, 31, 37...

19 is the seventh Mersenne prime exponent.

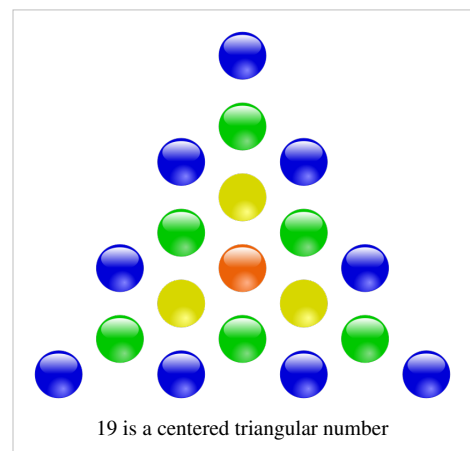
19 is the aliquot sum of two odd discrete semiprimes, 65 and 77 and is the base of the 19-aliquot tree.

19 is a centered triangular number, centered hexagonal number and a Heegner number.

The largest normal magic hexagon contains 19 hexagons.

Technology

- 19 is The TCP/IP port used for chargen.



Science

- The atomic number of Potassium

Religion

Islam

- The number of angels guarding Hell according to the Qur'an: "Over it is nineteen" (74:30).
- The Number of Verse and Sura together in Qur'an which describes Jesus Christ Birth (Qur'an 19:19).

Baha'i faith

In the Bábí and Bahá'í faiths, a group of 19 is called a *Váhid*, a Unity (Arabic: واحد *wāhid*, "one"). The numerical value of this word in the Abjad numeral system is 19.

- The Bahá'í calendar is structured such that a year contains 19 months of 19 days each (along with the intercalary period of Ayyám-i-Há), as well as a 19-year cycle and a 361-year (19x19) supercycle.
- The Báb and his disciples formed a group of 19.
- There were 19 Apostles of Bahá'u'lláh.

Music

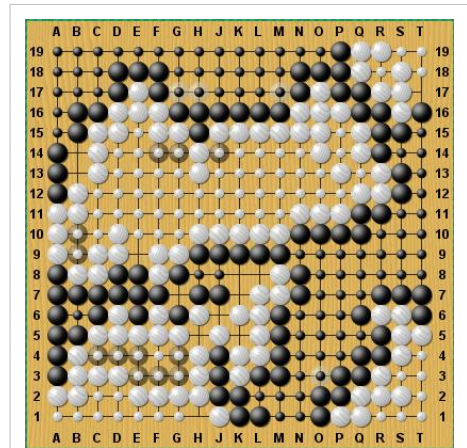
- *19* is the debut album from English soul and jazz singer Adele.
- *19* is the fourth studio album from Russian pop singer Alsou.
- *19* is Evan Yo's first album, because Yo was nineteen years old when the album was released.
- "19" is a 1985 song by Paul Hardcastle, including sampled soundbites taken from a documentary about the Vietnam War in which 19 is claimed to have been the average age of United States soldiers killed in the conflict (an assertion which is widely disputed).^[1] The song was parodied by British satirist Rory Bremner as *N-n-nineteen, Not Out*, the title referring to the English cricket team's risible performance against the West Indies in the previous year.
- With a similar name and anti-Vietnam War theme, "I Was Only Nineteen" by the Australian group Redgum reached number one on the Australian charts in 1983. In 2005 a hip hop version of the song was produced by The Herd.
- Other songs titled 19:
 - "*Nineteen*" by Bad4good
 - "*Nineteen*" by Buck-O-Nine
 - "*Nineteen*" by Phil Lynott
 - "*Nineteen*" by the Old 97's
 - "*Nineteen*" by Tegan and Sara
- Nineteen has been used as an alternative to twelve for a division of the octave into equal parts. This idea goes back to Salinas in the sixteenth century, and is interesting in part because it gives a system of meantone tuning, being close to 1/3 comma meantone.
- Some organs use the 19th harmonic to approximate a minor third.

Literature

- Stephen King's seven book epic *The Dark Tower* saga employs the number 19 in books *The Dark Tower: The Gunslinger*, *The Dark Tower V: Wolves of the Calla*, and *The Dark Tower VI: Song of Susannah* as a mysterious and important number. They refer to the "ka-tet of 19", many names add up to 19, 19 seems to permeate every aspect of Roland and his traveler's lives. In addition, the number ends up being a powerful key.
- In Jodi Picoult's bestseller book *Nineteen Minutes*, the number 19 is referenced multiple times. It is most commonly referenced when referring to the main subject of the book, the school shooting rampage that took place over a span of 19 minutes.

Games

- The game of Go is played on a grid of 19×19 lines (though variants can be played on grids of other sizes).
- 19 is the command in *Age of Empires* for the laughing emote. This was an easier way to laugh before "LOL" existed.
- Though the maximum score for a hand of cribbage is 29, there is no combination of cards that adds up to 19 points. Many cribbage players, therefore, jokingly refer to a zero-point hand as "19 points."
- In Ecuadorian card game "40", when counting the amount of cards gathered in a hand, the limit is 19, after which the count starts at 6 and represents the points achieved during that hand.



A 19x19 Go board

Age 19

- This is the minimum age that is legal to buy tobacco products in Alabama, Alaska, New Jersey, Utah, and Nassau, Suffolk, and Onondaga counties in New York^[2].
- This is the minimum age at which one can drink and buy alcohol in Canada except for the provinces of Alberta, Manitoba, and Quebec where the drinking and purchase age of alcohol is 18.
- This is the minimum age to marry in the state of Nebraska.

Cars

- Renault 19, a car that was produced by French automobile manufacturer Renault.

Other fields

- The nineteenth President of the United States was Rutherford B. Hayes.
- The nineteenth state to enter the Union of the United States was Indiana
- Part of the name of a breakfast cereal: Product 19
- The Soviet submarine K-19 was the first Soviet nuclear ballistic submarine
- I-19 is the designation for a US interstate highway in Arizona
- the height, in feet, of the statues of Abraham Lincoln and Thomas Jefferson in their respective memorials.
- 19 years is very close to 235 lunations. See Metonic cycle

- In golf the "19th hole" is the clubhouse bar. In miniature golf it is an extra hole on which the winner earns an instant prize
- A number retired by several teams in North American sports. (Except as noted, all players are in the Hall of Fame of their respective sport.)
 - In the NFL:
 - Lance Alworth, by the San Diego Chargers.
 - Johnny Unitas, by the Baltimore Colts. The team has honored this retirement in its current home of Indianapolis.
 - In Major League Baseball:
 - Bob Feller, by the Cleveland Indians.
 - Tony Gwynn, by the San Diego Padres.
 - Robin Yount, by the Milwaukee Brewers.
 - In the NBA:
 - Willis Reed, by the New York Knicks.
 - In the NHL:
 - Bill Masterton, by the Minnesota North Stars. The team has honored this retirement in its current home of Dallas. Masterton is not in the Hockey Hall of Fame; his number was retired after he died from an on-ice injury in 1968. He is the only NHL player to have died as a direct result of an injury suffered during an NHL game.
 - Larry Robinson, by the Montreal Canadiens.
 - Joe Sakic, by the Colorado Avalanche. Sakic is not yet eligible for the Hall of Fame, as he retired in 2009.
 - Bryan Trottier, by the New York Islanders.
 - Steve Yzerman, by the Detroit Red Wings. Some Red Wings fans collectively refer to themselves as "the 19" in his honor.[3]
 - In NASCAR
 - NASCAR Sprint Cup Series driver Elliott Sadler drives the #19 Best Buy Ford Fusion for Richard Petty Motorsports.
- The number of the French department Corrèze

Historical years

A.D. 19, 19 B.C., 1919, 2019, etc.

References

- [1] Roush, Gary (2008-06-02). "Statistics about the Vietnam War" (<http://www.webcitation.org/5lpjNZVh8>). Vietnam Helicopter Flight Crew Network. Archived from the original (<http://www.vhfcn.org/stat.html>) on 2009-12-06. . Retrieved 2009-12-06. "Assuming KIAs accurately represented age groups serving in Vietnam, the average age of an infantryman (MOS 11B) serving in Vietnam to be 19 years old is a myth, it is actually 22. None of the enlisted grades have an average age of less than 20."
- [2] Center for Health Improvement (2008-06-02). "Minimum Age Increase" (<http://www.webcitation.org/5iSXbFWsp>). Archived from the original (http://worldstatesmen.org/USA_govt.html#Justice) on 2009-07-22. . Retrieved 2004-06-30. "In Alabama, Alaska, and Utah, 19 years is the minimum age for sale of tobacco products"
- [3] <http://www.nhl.com/ice/news.htm?id=523262>

External links

- Lexical Concordance of 19 in the Holy Quran (<http://www.qul.org.au/the-holy-quran/mathematical-miracles-in-lexical-concordance>)
- Number 19 at the Database of Number Correlations (<http://www.VirtueScience.com/19.html>)
- 19.ORG (<http://19.org>)
- Prime Curios for the number 19 (<http://primes.utm.edu/curios/page.php/19.html>)
- Agir XIX (<http://www.agir19.free.fr>)

pnb:19

20 (number)

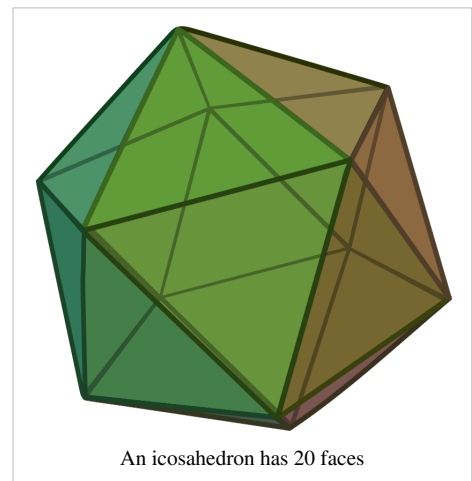
← 19	
21 →	
20	
← 20 21 22 23 24 25 26 27 28 29 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	twenty
Ordinal	20 (twentieth)
Numeral system	vigesimal
Factorization	$2^2 \cdot 5$
Divisors	1, 2, 4, 5, 10, 20
Roman numeral	XX
Binary	10100_2
Octal	24_8
Duodecimal	18_{12}
Hexadecimal	14_{16}

"Twenty" redirects here. For the village in England, see Twenty, Lincolnshire.

20 (**twenty**) is the natural number following 19 and preceding 21. A group of twenty units may also be referred to as a **score**.^[1]

In mathematics

- 20 is the third composite number comprising the product of a squared prime and a prime.
- 20 is the second composite number of the form p^2q ; a square-prime, and also the second member of the $(2^2)q$ family in this form.
- 20 has an aliquot sum of 22 (110% in abundance). Accordingly, 20 is the third abundant number and demonstrates an 8 member aliquot sequence; {20, 22, 14, 10, 8, 7, 1, 0}.
- 20 is the smallest primitive abundant number.
- 20 is the 4th composite number in the 7-aliquot tree. Two numbers have 20 as their aliquot sum; the discrete semiprime 34 and the squared prime 361. Only 2 other square primes are abundant 12 and 18.
- An icosahedron has 20 faces. A dodecahedron has 20 vertices.
- 20 can be written as the sum of three Fibonacci Numbers uniquely, i.e. $20 = 13 + 5 + 2$.
- The product of the number of divisors and the number of proper divisors of 20 is exactly 20.



In science

- The atomic number of calcium.
- The third magic number in physics.
- The IAU shower number for Coma Berenicids.

Biology

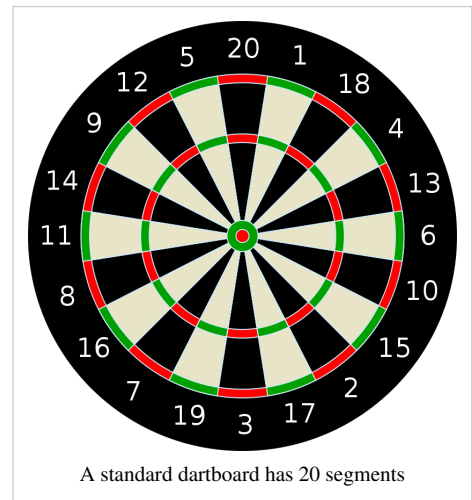
- The number of proteinogenic amino acids that are encoded by the standard genetic code.
- In some countries, the number 20 is used as an index in measuring visual acuity. 20/20 indicates normal vision at 20 feet, although it is commonly used to mean "perfect vision" (Note that this applies only to countries using the Imperial system. The metric equivalent is 6/6). When someone is able to see only after an event how things turned out, that person is often said to have had "20/20 hindsight".
- There are 20 baby teeth in the deciduous dentition.

In religion

- Age 20 is the age at which Levites in the time of King David were allowed "to do the work for the service of the house of the Lord", the Temple in Jerusalem (see First Chronicles Chapter 24, verses 24 and 27). In the time of Ezra and Nehemiah, following the Babylonian captivity, it was Levites from the age of 20 upwards who were assigned "to oversee the work of the house of the LORD" (Ezra Chapter 3, verse 8).

In sports

- 20 is the retired number of Pro Football Hall of Fame running back Barry Sanders, formerly of the Detroit Lions.
- The retired number of former baseball players Frank Robinson, Mike Schmidt, Mark Fidrych and Lou Brock.
- 20 was the cup number of two-time Nascar Sprint Cup Series champion Tony Stewart. After Stewart left the #20 team in 2009 to drive for himself, Rookie Joey Logano took over the car.
- The Twenty20 Cup is a form of limited Overs Cricket where each team plays only 20 Overs.
- 20 was worn by NHL Hall of Famer Luc Robitaille and his jersey number has been retired by the Los Angeles Kings.



Age 20

- Twenty is the age of majority in Japanese tradition. Someone who is exactly twenty years old is described as *hatachi*

In other fields

- The number of twenty can also be called a score (as Abraham Lincoln did in his Gettysburg Address).
- Twenty questions is a popular party game
- The Twenty Year Curse refers to the pattern of presidents of the United States who were elected to office in 1840, 1860, 1880, 1900, 1920, 1940, and 1960 to die in office. This pattern ended with the 1980 presidency of Reagan, who survived his time in office and, notably, an attempted assassination.
- Bands with the number twenty in their name include Matchbox Twenty
- In the 1974 sci-fi film *Dark Star*, Exponential Thermostellar Bomb number 20 threatens to detonate in the *Dark Star's* bomb bay
- A 20-minute-long program of advertisements and trailers shown before some films playing in American movie theaters is called "The Twenty" (spelled "The 20wenty")
- Yan Tan Tethera is a 20-word jingle for counting sheep
- The ordinal adjective is *vicenary*
- *20/20* is a late-night newsmagazine program on the ABC network, that has been hosted by Barbara Walters, Hugh Downs, Elizabeth Vargas, and others
- In the roleplaying game *Dungeons and Dragons* (as well as other RPGs that use twenty-sided dice), twenty-sided dice play a pivotal role in gameplay, and to "roll a twenty" is significant to the point that it is sometimes used in other, usually related, contexts, similar to the use of "doubles" in reference to *Monopoly*.
- There are 20 ounces in Venti size coffees at Starbucks coffee shops.

20 is:

- **Twenty**, a village in Lincolnshire
- In the United States Constitution, \$20 is the threshold value of civil disputes above which the right to trial by jury is preserved
- A denomination of \$US featuring Andrew Jackson's portrait
- A denomination of Pound sterling featuring Adam Smith's portrait
- The code for international direct dial phone calls to Egypt
- The designation of Interstate 20, a freeway that runs from Texas to South Carolina
- *20 (album)*, a 1988 album by Harry Connick, Jr.
- *Twenty (album)*, a 1997 album by Lynyrd Skynyrd
- *20 (Terminaator album)*, a 2007 album by *Terminaator*
- *Twenty (concert)*, a 2006 concert celebrating the 20th Anniversary of Regine Velasquez held at the Araneta Coliseum, Philippines. It was awarded Best Major Concert Act by the Aliw Awards.
- CB slang for "a place", being short for "10–20", used in reference to a person or object's location
- One of the TCP/IP "well-known ports", port 20 being used for File Transfer Protocol
- In the French and Portuguese education system, grades are given out of 20. Giving 20/20 is a very rare occasion.

Historical years

20 A.D., 20 B.C., 1920, 2020, etc.

References

- [1] John H. Conway and Richard K. Guy, *The Book of Numbers*. New York: Copernicus (1996): 11. "'Score' is related to 'share' and comes from the Old Norse 'skor' meaning a 'notch' or 'tally' on a stick used for counting. ... Often people counted in 20s; every 20th notch was larger, and so 'score' also came to mean 20."

pnb:20

21 (number)

<p>← 20</p> <p style="text-align: right;">22 →</p> <p style="text-align: center;">21</p>	
<p>← 20 21 22 23 24 25 26 27 28 29 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	twenty-one
Ordinal	21 (twenty-first)
Factorization	$3 \cdot 7$
Divisors	1, 3, 7, 21
Roman numeral	XXI
Binary	10101_2
Octal	25_8
Duodecimal	19_{12}
Hexadecimal	15_{16}

21 (twenty-one) is the natural number following 20 and preceding 22.

In mathematics

Twenty-one is the fifth discrete Semiprime and the second in the (3,q) family. With 22 it forms the second discrete Semiprime pair. As it is a semiprime with both its prime factors being Gaussian primes, 21 is then a Blum integer.

Twenty-one is a Fibonacci number, a Harshad number, a Motzkin number, a triangular number and an octagonal number, as well as a composite number, its proper divisors being 1, 3 and 7.

21 is the sum of the first six natural numbers ($1+2+3+4+5+6=21$).

21 has an aliquot sum of 11 though it is the second composite number found in the 11-aliquot tree with the abundant square prime 18 being the first such member. Twenty-one is the first number to be the aliquot sum of three numbers 18, 51, 91.

21 appears in the Padovan sequence, preceded by the terms 9, 12, 16 (it is the sum of the first two of these).

The sum of divisors for the integers 1 through 6 is 21.

21 is a repdigit in base 4 (111).

21 is the smallest natural number that is not close to a power of 2, 2^n , where the range of closeness is $\pm n$.

21 is the smallest number of differently sized squares needed to square the square.^[1]

In science

- The atomic number of scandium

In music

- British indie rock band Mystery Jets released an album entitled *Twenty One* in 2008.
- "Twenty-one" is also a song from Eagles
- "Twenty one" is the name of the song from *No need to argue* by The Cranberries
- 2NE1 is the name of a girl group originating South Korea meaning "New Evolution of the 21st Century"

Age 21

In several countries 21 is the age of majority. See also: Coming of age, Voting age, Legal drinking age.

In sports

- The Pittsburgh Pirates retired number 21 in 1973 in honor of Roberto Clemente, who was killed in a plane crash while delivering humanitarian aid to victims of an earthquake in Nicaragua.
- 21 is a variation of street basketball, in which each player, of which there can be any number, plays for himself only (i.e. not part of a team); the name comes from the requisite number of baskets.
- Captain of the 1980 U.S. men's Olympic Hockey Team Mike Eruzione wore number 21.
- The late Washington Redskin Sean Taylor wore number 21. Fellow team-mates Chris Cooley and Chris Samuels wore number 21 during the Pro Bowl in his honor.
- Hall of Fame pitcher Warren Spahn wore the number for the Milwaukee Braves, the number is now retired by the franchise.
- 2007 NFL Defensive player of the year Bob Sanders wears the number 21 on his Indianapolis Colts jersey.
- Deion Sanders wore number 21 for the Atlanta Falcons, San Francisco 49ers, Dallas Cowboys and Washington Redskins.
- Running back LaDainian Tomlinson wears number 21.
- Dominique Wilkins wore number 21 for the Atlanta Hawks.
- Tim Duncan wears number 21 for the San Antonio Spurs.
- Kevin Garnett wore number 21 while playing with the Minnesota Timberwolves.
- In badminton, 21 points are required to win a game.
- In soccer, AC Milan midfielder Andrea Pirlo wears the number.
- Eyeshield 21(アイシールド21 Aishīrudo nijūichi) is a Japanese animation about football
- In the NASCAR Sprint Cup Series the number 21 has long been the car number for Wood Brothers Racing

In other fields

21 is:

- The current century—spanning the years from 2001 to 2100—referred to as the 21st century. The approach of this century inspired many forward-looking 20th century events and company and product names, such as the Century 21 Exposition (another name for the 1962 Seattle World's Fair), Century 21 Real Estate, and Century 21 Television (producers of *Sylvia and Gerry Anderson* Supermarionation shows like *Thunderbirds* and *Captain Scarlet and the Mysterons*).
- The Twenty-first Amendment repealed the Eighteenth Amendment, thereby ending Prohibition.
- Illinois - the 'Land of Lincoln' - is the 21st state to join the United States. Abraham Lincoln moved to Illinois when he was 21 and he met his future wife - Mary Todd - in Springfield when she was 21. Illinois currently has 21 electoral votes in the US Presidential Election.
- Pier 21 was, from 1928 to 1971, the place where immigrants entered Canada. It was called the "Gateway to Canada."
- Forever 21 (also operating as XXI Forever) is a US-based chain of clothing stores that was founded in 1984.
- The number of spots on a standard cubical dice (1+2+3+4+5+6)
- The number of firings in a 21-gun salute honoring Royalty or leaders of countries
- A card game, also called *vingt-et-un* (French for "twenty-one"), pontoon, or blackjack
- There are 21 trump cards of the tarot deck if one does not consider The Fool to be a proper trump card.
- *Twenty One*, a TV quiz show that ran from 1956 to 1958, most remembered for the scandal that the wins were fixed (see Quiz show scandals). It was remade in 2000.
- The title of at least four different movies:
 - A 1918 comedy starring Bryant Washburn and Gertrude Selby
 - A 1923 drama starring Richard Barthelmess and Dorothy Mackaill
 - A 1991 drama starring Patsy Kensit
 - A 2008 drama starring Kevin Spacey, Laurence Fishburne, and Kate Bosworth, based on the book *Bringing Down the House*.
- In the title of the TV show *21 Jump Street*, starring Johnny Depp
- The standard TCP/IP port number for FTP connection
- The Twenty-One Demands were a set of demands which were sent to the Chinese government by the Japanese government of Okuma Shigenobu in 1915
- 21 Demands of MKS led to the foundation of Solidarity in Poland.
- 21 Demands are an Irish rock band.
- Number 21 is the name of the plane alleged flown by Gustave Whitehead two years before the Wright brothers' flight
- The title of a song by The Cranberries
- *21* is the title of Omarion's second album.
- *21* is the title of a novel by Patrick O'Brian
- The 21 Club is a top restaurant in New York City



Building called "21" in Zlín, Czech Republic.



Detail of the building entrance

- In Israel, the number is associated with the profile 21 (the military profile designation granting an exemption from the military service)
- 21 grams is the weight of the soul, according to research by Duncan MacDougall, generally regarded as meaningless. In reference to MacDougall's theory, *21 Grams* is the title of a movie (although MacDougall's theory plays no direct role in the film)
- "21" is the title of the debut single by British rock band The Paddingtons
- #21 is a recurring character on *The Venture Bros.*
- 21 Records, a record label
- 21st Circuitry, a record label
- 21 is the designation of a US Highway connecting Wytheville, Virginia and Beaufort, South Carolina, a truncation of a route that once connected Cleveland, Ohio and Jacksonville, Florida, among other highways past and present.
- The number of the French department Côte-d'Or

Historical years

21 A.D., 21 B.C., 1921, 2021, etc.

References

- [1] C. J. Bouwkamp, and A. J. W. Duijvestijn, "Catalogue of Simple Perfect Squared Squares of Orders 21 Through 25." Eindhoven University of Technology, Nov. 1992.

pnb:21

22 (number)

$\leftarrow 21$	
$23 \rightarrow$	
22	
$\leftarrow 20 \ 21 \ 22 \ 23 \ 24 \ 25 \ 26 \ 27 \ 28 \ 29 \rightarrow$	
List of numbers — Integers	
$0 \ 10 \ 20 \ 30 \ 40 \ 50 \ 60 \ 70 \ 80 \ 90 \rightarrow$	
Cardinal	twenty-two
Ordinal	22 (twenty-second)
Factorization	$2 \cdot 11$
Divisors	1, 2, 11, 22
Roman numeral	XXII
Binary	10110_2
Octal	26_8
Duodecimal	$1A_{12}$
Hexadecimal	16_{16}

22 (twenty-two) is the natural number following 21 and preceding 23.

In mathematics

Twenty-two is an even composite number, its proper divisors being 1, 2 and 11. 22 is the sixth discrete semiprime and the fourth in the (2,q) family. With 21 it forms the second discrete semiprime pair. 22 has an aliquot sum of 14 and is the fifth composite number found in the 7-aliquot tree. It has a 7- member aliquot sequence 22, 14, 10, 8, 7, 1, 0 of which the next two members are themselves discrete semiprimes, 22 is the first discrete semiprime exhibiting this property. 169 also has 14 as its aliquot sum. 22 is itself the aliquot sum of two numbers 20, 38.

Twenty-two is a pentagonal number and a centered heptagonal number. When cutting a circle with just six line segments, the maximum number of pieces that can be so created is 22,^[1] thus 22 is a central polygonal number (see lazy caterer's sequence).

The sum of the totient function for the first eight integers is 22. 22 is a Perrin number, preceded in the sequence by 10, 12, 17.

22 divided by 7 approximates the irrational number π , the ratio of the circumference of a circle to its diameter.

Since it is possible to find sequences of 22 consecutive integers such that each inner member member shares a factor with either the first or the last member, 22 is an Erdős–Woods number.

It is a Smith number in base 10.

In physics and chemistry

- The atomic number of titanium

In religion

- There are 22 letters in the Hebrew alphabet
- There are 22 chapters of the Revelation of John in the Bible
- In the Kabbalah, there are 22 paths between the *sephiroth*
- Psalm 22 (22nd in the Book of Psalm in the King James Bible), described by the New American Standard Bible as the "A Cry of Anguish and a Song of Praise", is the Psalm to which the crucified and dying Jesus makes reference, citing its first verse in Aramaic (Matthew 27:46; Mark 15:34 ^[2])
- Psalm 118 verse 22 contains all 22 letters of the Hebrew alphabet and is dead center of the Bible. "The stone the builders rejected has become the chief cornerstoneBible
- There are 22 verses in Surah "Al Burooj"(The Zodiac, or Constellations), in the Quran. Linking the Zodiac and the mystery of the number 22, as found in the Major Arcana.

In numerals

- In the divinatory tarot, there are 22 major arcana cards. These cards are numbered 0-21, so it is a matter of interpretation whether The Fool or The World is card number 22. The latter card is almost always associated with hard workers, a red-gold colour, and a rose-gold gemstone. The digital root of the 22 is the 4, which is the number of hard work.

In sports

- 22 is the jersey number of Mark Ingram, sophomore running back from Alabama, who won the Heisman Trophy in 2009, becoming the Crimson Tide's first ever Heisman winner. Coincidentally, he did so the same year Alabama won it's 22nd SEC title.
- In rugby union, the "22" is a the line in each half of the field which is 22 metres from the respective try line. It has significance in a number of laws particularly relating to kicking the ball away.
- 22 is the number of players on the field in a Football (soccer) match, and also the number of players on the field at any one time in an American football match.
- The jersey number 22 has been retired for NBA players Clyde Drexler, Elgin Baylor and Dave DeBusschere.
- The length of a cricket pitch is 22 yards.
- In Australian rules football there are 22 players on each team, comprising a starting 18, and 4 bench players.
- "22" is a common name for the .22 calibre .22 Long Rifle cartridge.
- "22" is the number of the Bill Davis Racing Toyota driven by Dave Blaney
- "22" was the number of Lewis Hamilton's McLaren-Mercedes in 2008 and is the number of Jenson Button's Brawn-Mercedes in 2009, both winning the drivers' championship that year.

In music

- The name of a song by punk band Millencolin.
- In Jay-Z's song "22 Two's", he rhymes the words: too, to and two, 22 times in the first verse.
- Iron Maiden has a song named "22 Acacia Avenue".
- Death Metal band Hypocrisy album "Catch 22" released in year 2002.
- Lily Allen has a song titled "22" from her album *It's Not Me, It's You*.
- Paul Weller has a song and album named *22 Dreams*. The album contains 22 songs on it, including the song "22 Dreams".
- The Norwegian electronica project Ugress uses 22 as a recurring theme. All four albums features a track with 22 in the title.

In journalism, literature, fashion, art, film and television

- *Catch-22*, the 1961 novel (and its 1970 film version) by Joseph Heller, which consequently gave rise to the expression "catch-22"
- *Twenty-Two*, Season 2—episode 17 (February 10, 1961) of the 1959-64 TV series *The Twilight Zone* in which a hospitalized dancer has nightmares about a sinister nurse inviting her to Room 22, the hospital morgue.
- In the online series *Prom Queen*, the number 22 factors prominently into the story, appearing in numerous episodes, and the digits in the date of the prom (6/9/07) add up to 22.
- *Revista 22*, a magazine published in Romania
- The typical (minimum) number of episodes in a season for a television program broadcast on a major American network is 22.
- Insult comedian Jack E. Leonard, on his numerous television game show appearances, answered with "22" to any question requiring a numerical response.
- On the show *Most Evil*, a forensic psychiatrist scales from 1 to 22, evilness is mentally evaluated.
- There are 22 stars in the Paramount Films logo.
- The typical length of a half hour sitcom not including commercials is 22 minutes.

In weights and measures

- The number of yards in a chain.
- A cricket pitch is 22 yards in length

In computing

- The standard port number for the Secure Shell protocol
- A quotation mark (in a URL it appears as a "%22")

In technology

- 22 is the designation of the USAF stealth fighter, the F-22 Raptor.
-

In photography

- $f/22$ is the largest f-stop (and thus smallest aperture) available on most lenses made for single-lens reflex cameras

In politics

- The central number in the numerologically-based political platform of fringe U.S. Presidential candidate Love 22
- 22nd Bahman 1357 (according to the Iranian calendar; February 11, 1979) a revolution took place in Iran resulting in the decline of Pahlavi Dynasty in Iran which consequently led to establishment of the Islamic Republic of Iran under the leadership of Ruh-o llah Khomeyeni. Latter this day has been annually celebrated by the Iranian government.

In jargon

- In French, "22" is used as a phrase to warn of the coming of the police (typically "*22, v'là les flics !*", "22, here come the cops!")

In other fields

Twenty-two may also refer to:

- The number of the French department Côtes-d'Armor
- The Titanic was traveling at a speed of 22 knots before it crashed into an iceberg.
- In bingo, 22 is referred to as 'Two Little Ducks'

See also

- Catch 22 (disambiguation)
- Synchronicity
- 22 (numerology)

References

- [1] Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1986): 31
- [2] <http://www.biblegateway.com/passage/index.php?search=Mat%2027:46;%20Mar%2015:34;&version=49;&interface=print>

External links

- The Number 22 at The Database of Number Correlations (<http://www.virtuescience.com/22.html>)

pnb:22

23 (number)

This article is about the number 23. For the year, see 23. For the movies, see 23 (film) and The Number 23. For other uses, see 23 (disambiguation)

← 22	
23	
24 →	
← 20 21 22 23 24 25 26 27 28 29 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	Twenty-three
Ordinal	23 (Twenty-third)
Factorization	Prime
Divisors	1, 23
Roman numeral	XXIII
Binary	10111 ₂
Octal	27 ₈
Duodecimal	1B ₁₂
Hexadecimal	17 ₁₆

23 (**twenty-three**) is the natural number following 22 and preceding 24.

In mathematics

Twenty-three is the ninth prime number, the smallest odd prime that is not a twin prime. Twenty-three is also the fifth factorial prime, the third Woodall prime. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$.

The fifth Sophie Germain prime and the fourth safe prime, 23 is the next to last member of the first Cunningham chain of the first kind to have five terms (2, 5, 11, 23, 47). Since $14! + 1$ is a multiple of 23 but 23 is not one more than a multiple 14, 23 is a Pillai prime. 23 is the smallest odd prime to be a highly cototient number, as the solution to $x - \varphi(x)$ for the integers 95, 119, 143, 529.

Twenty-three is the aliquot sum of two integers; the discrete semiprimes 57 and 85 and is the base of the 23-aliquot tree.

23 is the first prime P for which unique factorization of cyclotomic integers based on the P th root of unity breaks down.

The sum of the first 23 primes is 874, which is divisible by 23, a property shared by few other numbers.^{[1] [2]}

In the list of fortunate numbers, 23 occurs twice, since adding 23 to either the fifth or eighth primorial gives a prime number (namely 2333 and 9699713).

23 also has the distinction of being one of two integers that cannot be expressed as the sum of fewer than 9 cubes of integers (the other is 239). See Waring's problem.

23 is a Wedderburn–Etherington number. The codewords in the perfect (non-extended) binary Golay code are of size 23.

According to the birthday paradox, in a group of 23 (or more) randomly chosen people, the probability is more than 50% that some pair of them will have the same birthday.

There were 23 problems on David Hilbert's famous list of unsolved mathematical problems, presented to the International Congress of Mathematicians in Paris in 1900.

In base 10, 23 is the second Smarandache–Wellin prime, as it is the concatenation of the base 10 representations of the first two primes (2 and 3) and is itself also prime. It is also a happy number in base 10. $23!$ is 23 digits long in base 10. There are only three other numbers that have this property: 1, 22, and 24.

The natural logarithms of all positive integers lower than 23 are known to have binary BBP-type formulae.^[3]

In science

- The atomic number of vanadium.
- The atomic mass number of the stable isotope of sodium.
- Normal human sex cells have 23 chromosomes.^[4] Other human cells have 46 chromosomes, arranged in 23 pairs.^[5]

In technology

23 is the TCP/IP port used for telnet and is the default for the telnet command.

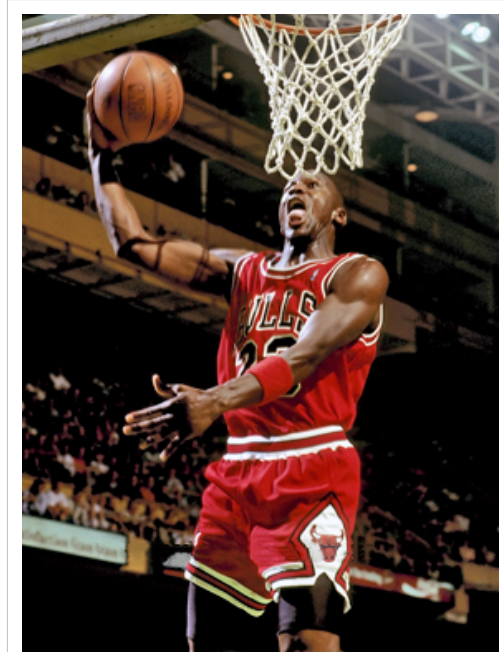
In religion

- Psalm 23, also known as the Shepherd Psalm, is possibly the most quoted and best known Psalm.^[6] Psalms is also the 23rd book in the Douay–Rheims Bible.
- In Islam, the Qur'an was revealed in a total of 23 years to Muhammad.^[7] ^[8]
- In Abhidharma, the number of anomalous generic types (of a possible 72) - e.g., events are considered *sui generis* because they are not reducible to either mind or matter — is 23.
- *Principia Discordia*, the sacred text of Discordianism, holds that 23 (along with the discordian prime 5) is one of the sacred numbers of Eris, goddess of discord.

In popular culture

Sports

The number 23 has been retired for quite a few prominent athletes. Michael Jordan wore number 23 when he played professional basketball with the Chicago Bulls and, later, the Washington Wizards -- except immediately following his comeback from baseball, when he wore number 45, and for one game in the 1990-91 season against the Orlando Magic when his jersey was stolen and he wore the number 12. Australian cricketer Shane Warne wore the number 23 during his career; Don Mattingly of the New York Yankees wore number 23; the New York Yankees retired the number in 1997. Ryne Sandberg, of the Chicago Cubs, wore number 23, which was retired on August 28, 2005. Bob Nystrom of the New York Islanders wore number 23 and has had the number retired in his honour. Bob Gainey, ex-General Manager and former player for the Montreal Canadiens, had his number 23 retired February 23, 2008. Nathan Scott, a prominent basketball player in the American television serial *One Tree Hill*, wears the number 23 on his jersey. Zack Greinke, the Cy Young Award Winner in 2009 wears the number 23.



Michael Jordan, a star basketball player for the NBA, wore the number 23 on his jersey

As a tribute to Michael Jordan, David Beckham chose 23 as his shirt number at Real Madrid, and subsequently at LA Galaxy.

Manchester City F.C. have not assigned the squad number 23 to any player since 2003. This is because Marc-Vivien Foé, the player who collapsed and died while playing for Cameroon on June 26, 2003, had held this squad number at Manchester City. Club Brugge KV, a Belgian football team, has done the same when their number 23, François Sterchele died on May 8, 2008 in a car accident.

Former Cleveland Cavaliers forward LeBron James also wore No. 23, simply due to the fact that Michael Jordan was his favorite sports hero growing up, and that his game was patterned after him. Upon joining the Miami Heat in 2010, James abandoned No. 23 and switched to No. 6 (incidentally the multiplication number when 2 was multiplied by 3).

Music

- Alfred Harth uses the number 23 in his artist name Alfred 23 Harth, or A23H, since the year $1+9+8+5 = 23$.
- Several songs and albums use the number 23 as their titles, including Tristan Prettyman's debut album, the eleventh song from Tool's fourth full-length studio album *10,000 Days*, "Viginti Tres" (Latin for twenty-three).
- Blonde Redhead have the album '23' and the song with the same name.
- Jimmy Eat World's song "23" appeared on their album *Futures*. The number also appears in the songs "Christmas Card" and "12."23".95" as well as on some items of clothing produced by the band.
- Four Tet and Yellowcard both have songs titled "Twenty-Three".
- The Posies have a record called *Dear 23*
- The Church's 2009 studio album is called "Untitled 23"
- Spiral Tribe From its inception, the group was obsessed by the number 23. Members sometimes recorded under the moniker of SP23, and the record label itself was called Network 23.
- Blink-182's hit song, *What's My Age Again?* claims that, "*nobody likes you when you're 23*".

Film and television

- 23 is a German film about Karl Koch
- *The Number 23* is a 2007 film starring Jim Carrey.
- 23 is one of The Numbers - 4, 8, 15, 16, 23, and 42 - featured in *Lost*.
- In *The Matrix Reloaded*, the Architect tells Neo it is of utmost importance to choose 23 people to repopulate Zion.
- In *Jeepers Creepers*, the Creeper appears every 23 years for 23 days to feast on human flesh.
- In the film *Vantage Point*, all flashbacks take place 23 minutes before the assassination attempt on the president.
- As revealed in Japanese film *L: Change the World*, 23 is the maximum number of days a person may live before he dies by the cause of writing his name in *Death Note*. Main protagonist L of the film *L: Change the World*, signs his name in *Death Note* so to die after 23 days.

Other fields

- The 23 Enigma plays a prominent role in the plot of *the Illuminatus! Trilogy* by Robert Shea and Robert Anton Wilson.
- *The 23*, in South Africa, refers to the 23 conscientious objectors who publicly refused to do military service in the Apartheid army in 1987. The following years the number increased to 143 (in 1988) and 771 (in 1989), with Apartheid being dismantled from 1990 onwards.^[9]
- Julius Caesar was stabbed 23 times.^[10]

References

- [1] (sequence A045345 (<http://en.wikipedia.org/wiki/Oeis:a045345>) in OEIS)
- [2] Puzzle 31.- The Average Prime number, $APN(k) = S(P_k)/k$ (http://www.primepuzzles.net/puzzles/puzz_031.htm) from The Prime Puzzles & Problems Connection website
- [3] <http://www.math.grinnell.edu/~chamberl/papers/bbp.pdf>
- [4] H. Wramsby, K. Fredga, P. Liedholm, "Chromosome analysis of human oocytes recovered from preovulatory follicles in stimulated cycles" *New England Journal of Medicine* **316** 3 (1987): 121 - 124
- [5] Barbara J. Trask, "Human genetics and disease: Human cytogenetics: 46 chromosomes, 46 years and counting" *Nature Reviews Genetics* **3** (2002): 769. "Human cytogenetics was born in 1956 with the fundamental, but empowering, discovery that normal human cells contain 46 chromosomes."
- [6] Miriam Dunson, *A Very Present Help: Psalm Studies for Older Adults*. New York: Geneva Press (1999): 91. "Psalm 23 is perhaps the most familiar, the most loved, the most memorized, and the most quoted of all the psalms."
- [7] *Living Religions: An Encyclopaedia of the World's Faiths*, Mary Pat Fisher, 1997, page 338, I.B. Tauris Publishers,
- [8] Qur'an, Chapter 17, Verse 106 (<http://www.usc.edu/dept/MSA/quran/017.qmt.html#017.106>)
- [9] Nan Cross: Supported men resisting apartheid conscription Sunday Times (South Africa), 2007-07-22, accessed 2009-01-05 (<http://www.thetimes.co.za/Columnists/Article.aspx?id=521101|The>). For a short summary on conscientious objection in South Africa, see http://en.wikipedia.org/wiki/Nan_Cross#cite_note-jt-0
- [10] Woolf Greg (2006), *Et Tu Brute? – The Murder of Caesar and Political Assassination*, 199 pages – ISBN 1-86197-741-7

External links

- Article in the British newspaper *The Mirror* regarding the power of the number 23 (http://www.mirror.co.uk/news/topstories/tm_objectid=13136269&method=full&siteid=94762-name_page.html)
- A Portal for 23 Knowledge and Culture (<http://nexus23.org>)
- 23 facts, 23 images, 23 gallery, and links to other 23's (<http://www.dauddegre.co.uk/>)

pnb:23

24 (number)

<p>← 23</p> <p style="text-align: right;">25 →</p> <p style="text-align: center;">24</p>	
<p>← 20 21 22 23 24 25 26 27 28 29 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	twenty-four
Ordinal	24 (twenty-fourth)
Factorization	$2^3 \cdot 3$
Divisors	1, 2, 3, 4, 6, 8, 12, 24
Roman numeral	XXIV
Binary	11000_2
Octal	30_8
Duodecimal	20_{12}
Hexadecimal	18_{16}

24 (twenty-four) is the natural number following 23 and preceding 25.

The SI prefix for 10^{24} is yotta (Y), and for 10^{-24} (i.e., the reciprocal of 10^{24}) yocto (y). These numbers are the largest and smallest number to receive an SI prefix to date.

In mathematics

- 24 is the factorial of 4 and a composite number, being the first number of the form 2^3q , where q is an odd prime.
- It is the smallest number with exactly eight divisors: 1, 2, 3, 4, 6, 8, 12, and 24. It is a highly composite number, having more divisors than any smaller number. Adding up all the proper divisors of 24 except 4 and 8 gives 24, hence 24 is a semiperfect number.
- Subtracting one from any of its divisors (except 1 and 2, but including itself) yields a prime number. 24 is the largest number with this property, for to have this property a number cannot be divisible by a prime greater than three, nor can it be divisible by 9 or 16.
- 24 has an aliquot sum of 36 and the aliquot sequence (24,36,55,17,1,0). Only one number has an aliquot sum 24; 529, the square of 23.
- There are 10 solutions to the equation $\varphi(x) = 24$, namely 35, 39, 45, 52, 56, 70, 72, 78, 84 and 90. This is more than any integer below 24, making 24 a highly totient number.
- 24 is a nonagonal number. This number is also the sum of a twin prime (11 + 13). It is a Harshad number and a semi-meandric number.
- Together with the number one, 24 is one of the few numbers n for which the sum of $\mu(d)d^2$ over the divisors d of n is equal to itself.^[1]
- The product of any four consecutive numbers is divisible by 24. This is because, among any four consecutive numbers, there must be two even numbers, one of which is a multiple of four, and there must be a multiple of three.^[2]

- In 24 dimensions there are 24 even positive definite unimodular lattices, called the Niemeier lattices. One of these is the exceptional Leech lattice which has many surprising properties; due to its existence, the answers to many problems such as the kissing number problem and sphere packing are known in 24 dimensions but not in many lower dimensions. The Leech lattice is closely related to the equally nice length-24 binary Golay code and the Steiner system $S(5,8,24)$ and the Mathieu group M_{24} . One construction of the Leech lattice is possible because of the remarkable fact that $1^2+2^2+3^2+\dots+24^2=70^2$ is a perfect square; 24 is the only integer greater than 1 with this property. These properties of 24 are related to the fact that the number 24 also appears in several places in the theory of modular forms; for example, the modular discriminant is the 24th power of the Dedekind eta function.
- The Barnes-Wall lattice contains 24 lattices.
- 24 is the highest number n with the property that every element of the group of units $(\mathbf{Z}/n\mathbf{Z})^*$ of the commutative ring $\mathbf{Z}/n\mathbf{Z}$, apart from the identity element, has order 2; thus the multiplicative group $(\mathbf{Z}/24\mathbf{Z})^* = \{1,5,7,11,13,17,19,23\}$ is isomorphic to the additive group $(\mathbf{Z}/2\mathbf{Z})^3$. This fact plays a role in monstrous moonshine.
- The 24-cell, with 24 octahedral cells and 24 vertices, is a self-dual convex regular 4-polytope; it has no good 3-dimensional analogue.
- For any prime p greater than 3, $p^2 - 1$ is divisible by 24 with no remainder. This results that squares of p expressed in radix 24 end with an 1, e.g. $5^2 = 11_{24}$, $7^2 = 21_{24}$, $11^2 = 51_{24}$.
- 24 is the second Granville number, and the first such that is not also a conventional perfect number.

In science

- The atomic number of chromium
- The number of hours in a day

In religion

- The number of books in the Tanakh
- In Christian apocalyptic literature it represents the complete Church, being the sum of the 12 tribes of Israel and the 12 Apostles of the Lamb

In music

- There are 24 major and minor keys in Western tonal music, not counting enharmonic equivalents. Therefore, for collections of pieces written in each key, the number of pieces in such a collection; e.g., Chopin's *24 Preludes*

In sports

- The number of teams that participated in each FIFA World Cup finals tournament between 1982 and 1994.
- The retired jersey number of Boston Bruins hockey player, Terry O'Reilly
- The number of accepted runners in the Melbourne Cup

In other fields

24 is also:

- The number of bits a computer needs to represent truecolour images (for a maximum of 16,777,216 colours). (But greater numbers of bits provide more accurate colors. "Truecolor" is one of many possible color representations.)
- The number of Carats representing 100% pure gold.
- The number of cycles in the Chinese solar year.
- The number of frames per second at which motion picture film is usually projected.
- The number of hours in a day.
- The number of letters in both the modern and classical Greek alphabet. For the latter reason, also the number of chapters or "books" into which Homer's *Odyssey* and *Iliad* came to be divided.



Astronomical clock in Prague



- 24, television series starring Kiefer Sutherland. Each episode covers one hour, with 24 episodes making up one entire "day".
- The number of points on a backgammon board.
- When pronounced "two-four", a 24-pack of beer (Canadianism).
- A children's mathematical game involving the use of any of the 4 standard operations on 4 numbers on a card to get 24 (see Math 24)
- The maximum number of Knight Companions in the Order of the Garter
- 24 is considered an unlucky number in Cantonese culture because its pronunciation is similar to that of "easy to die". For this reason, many buildings skip this floor number. The same goes for 13, 34, 44, etc.
- A Straight Edge symbol, for X is the 24th letter of the alphabet.
- In Brazil the number is associated with homosexuals due to the number representing the deer in the gambling game Jogo do Bicho and the word *viado* (a misspelling of *veado*, deer in Portuguese) being a slang for homosexuals.

Historical years

24 A.D., 24 B.C., 1924, 2024, etc.

References

- [1] Neil Sloane, "A046970 formatted as a simple table (<http://www.research.att.com/~njas/sequences/table?a=46970&fmt=4>)" The only times $n = a(n)$ are for $n = 1, 24$. The table only goes up to 60, though.
- [2] *Chambers's Encyclopædia*. Chambers W. and R., ltd. 1864. pp. 826.

External links

- My Favorite Numbers: 24 (<http://math.ucr.edu/home/baez/numbers/index.html#24>), John C Baez
- pnb:24

25 (number)

← 24 26 → 25	
← 20 21 22 23 24 25 26 27 28 29 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	twenty-five
Ordinal	25 (twenty-fifth)
Factorization	5^2
Divisors	1, 5, 25
Roman numeral	XXV
Binary	11001_2
Octal	31_8
Duodecimal	21_{12}
Hexadecimal	19_{16}

25 (twenty-five) is the natural number following 24 and preceding 26.

In mathematics

It is a square number, being $5^2 = 5 \times 5$. It is the smallest square that is also a sum of two (non-zero) squares: $25 = 3^2 + 4^2$. Hence it often appears in illustrations of the Pythagorean theorem.

25 is a centered octagonal number and an automorphic number.

25 per cent means one quarter.

25 has an aliquot sum of 6 and is the first number to have an aliquot sequence that does not culminate in 0 through a prime. Twenty-five is the aliquot sum of three integers; 95, 119, and 143. Twenty-five is the second composite member of the 6-aliquot tree.

It is the smallest base 10 Friedman number as it can be expressed by its own numbers: 5^2 .

It is also a Cullen number. 25 is the smallest pseudoprime satisfying the congruence $7^n = 7 \pmod n$.

25 is the smallest aspiring number — a composite non-social number whose aliquot sequence does not terminate.

According to the Shapiro inequality 25 is the least odd integer n such that there exist x_1, x_2, \dots, x_n such that

$$\sum_{i=1}^n \frac{x_i}{x_{i+1} + x_{i+2}} < \frac{n}{2}$$

where $x_{n+1} = x_1, x_{n+2} = x_2$.

Within base 10 one can readily test for divisibility by 25 by seeing if the last two digits of the number match 25, 50, 75 or 00.

25 and 49 are the only perfect squares in the following list:

13,**25**,37,**49**,511,613,715,817,919,1021,1123,1225,1327,1429...etc

The formula in this list can be described as $10^n * Z + (2Z + 1)$ where n clearly depends on the number of digits in Z and in 2Z+1.

In science

- The atomic number of manganese

In religion

- In **Ezekiel's vision of a new temple**: The number twenty-five is of cardinal importance in Ezekiel's Temple Vision (in the Bible, Ezekiel chapters 40-48).

In sports

- The size of the full roster on a major league baseball team
- In baseball, the number 25 is typically reserved for the best slugger on the team. Examples include Mark McGwire, Barry Bonds, and Mark Teixeira.
- The number of points needed to win a set in volleyball under rally scoring rules (except for the fifth set), so long as the losing team's score is two less than the winning team's score (i.e., if the winning team scores 25 points, the losing team can have no more than 23 points)
- Maurice(Mo)Williams wore number 25 while playing for Alabama and Milwaukee Bucks

In other fields

Twenty five is:

- The PokeDex number of Pikachu in the Pokemon cartoon.
- The number of years of marriage marked in a silver wedding anniversary.
- The minimum age of candidates for election to the United States House of Representatives. "Under 25" provides a common cut-off point for designating youth.
- The number of cents in a quarter.
- The usual TCP port for SMTP.
- The designation of United States Interstate 25, a freeway that runs from New Mexico to Wyoming
- The designation of the M25 London Orbital motorway
- Municipal Okrug 25, until March, 2010, name of Knyazhevo Municipal Okrug in Kirovsky District of Saint Petersburg, Russia
- The (critical) number of Florida electoral votes for the 2000 U.S. presidential election
- The name of the national board game of India (Pachisi — Hindi for 25)
- "25", a song by Veruca Salt from their 1994 album *American Thighs*
- "25th Floor", a song by Patti Smith Group from their 1978 album *Easter*
- "twentyfive", design studio in the Czech Republic
- Twenty Five is the name of a 2006 George Michael compilation celebrating 25 years in the music business (1981-2006)
- "25 boy", in Cantonese Chinese, is a slang term meaning "traitor" as used in the Chinese movie *Over the Edge*.
- The per-second frame rate of the PAL video standard
- The number of the French department Doubs
- 25 random things about me, an Internet meme utilizing Facebook's Notes feature



Historical years

25 A.D., 25 B.C., 1925, 2025, etc.

Slang names

- Pony (British slang for £25)^[1]

References

[1] Evans, I.H., *Brewer's Dictionary of Phrase and Fable*, 14th ed., Cassell, 1990, ISBN 0304340049

pnb:25

26 (number)

*This article is about the number. For the novel by Leo McKay, Jr., see *Twenty-six* (novel).*

<p>← 25 27 →</p> <p>26</p>	
<p>← 20 21 22 23 24 25 26 27 28 29 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	twenty-six
Ordinal	26 (twenty-sixth)
Factorization	$2^1 3$
Divisors	1 2 13 26
Roman numeral	XXVI
Binary	11010_2
Octal	32_8
Duodecimal	22_{12}
Hexadecimal	$1A_{16}$

26 (twenty-six) is the natural number following 25 and preceding 27.

In mathematics

26 is the only single number between a square ($25 = 5^2$) and a cube ($27 = 3^3$).^[1]

A rhombicuboctahedron has twenty-six sides.

When a 3x3x3 cube is made of twenty-seven unit cubes, twenty-six of them are visible parts of the exterior layer of cubes.

Properties of its positional representation in certain radices

Twenty-six is a repdigit in base three (222) and in base twelve (22).

In base ten, 26 is the smallest number that is not a palindrome to have a square ($26^2=676$) which is a palindrome.

Twenty-six is the number of five-digit prime quadruplets, the first of which is {13001, 13003, 13007, 13009}^[2].

In science

- The atomic number of iron
- The number of spacetime dimensions in bosonic string theory.

Astronomy

- Messier object M26, a magnitude 9.5 open cluster in the constellation Scutum
- The New General Catalogue object ^[6] NGC 26, a spiral galaxy in the constellation Pegasus

In religion

- 26 is the gematric number of the name of the God of Israel – YHWH
- According to Jewish chronology, God gave the Torah in the 26th generation since Creation

In sports

The jersey number 26 has been retired by several North American sports teams in honor of past playing greats (or in one case, an owner):

- In Major League Baseball:
 - The Chicago Cubs, for Hall of Famer Billy Williams.
 - The Los Angeles Angels of Anaheim, for founding owner Gene Autry.
 - The Texas Rangers, for Johnny Oates.
- In the NHL:
 - The Quebec Nordiques retired the number for Hall of Famer Peter Stastny, but when the team moved to Denver and became the Colorado Avalanche, it chose not to honor any of the numbers retired by the Nordiques.
- No team in the NBA or NFL has retired the number.

In other fields

Twenty-six is:

- A 2003 novel by Leo McKay, Jr..
- The number of letters in the English and Interlingua alphabets, if capital letters are not distinguished from lowercase letters.
- The number of miles in a marathon rounded down (26 miles and 385 yards).
- Often the number of episodes in a television program each year; this allows one new show per week for half the year, and one rerun per week for the rest of the year.
- The alias of punk rock singer Doc Corbin Dart
- The age at which males can no longer be drafted in the United States
- The "joke throw" in the game of darts, where a player throws 20, 5 and 1 when aiming for 20 (or treble 20). In professional darts, throwing 26 usually results in sneers or laughter from the audience.
- A dice game popular in the midwest United States from the 1930s to 1950s; players had to roll a chosen number 26 times or more, exactly 13 or fewer than $10^{[3]}$.
- In a normal deck of cards, there are 26 red cards and 26 black cards.
- The number of Cantons of Switzerland.
- The largest number of Oscars awarded to one person (Walt Disney).
- The number of bones in the normal human Foot and Ankle.

References

- Prime Curios! 26 ^[4] from the Prime Pages

[1] <http://www.normalesup.org/~baglio/maths/26number.pdf>

[2] Sequence A120120 (<http://en.wikipedia.org/wiki/Oeis:a120120>) in the OEIS: Number of n-digit prime quadruplets

[3] "Twenty-six." Encyclopædia Britannica. *Encyclopædia Britannica 2007 Ultimate Reference Suite*. Chicago: Encyclopædia Britannica, 2007.

[4] <http://primes.utm.edu/curios/page.php/26.html>

pnb:26

27 (number)

$\leftarrow 26$	
27	
$28 \rightarrow$	
$\leftarrow 20\ 21\ 22\ 23\ 24\ 25\ 26\ 27\ 28\ 29 \rightarrow$	
List of numbers — Integers	
$0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	twenty-seven
Ordinal	27 (twenty-seventh)
Factorization	3^3
Divisors	1, 3, 9, 27
Roman numeral	XXVII
Binary	11011_2
Octal	33_8
Duodecimal	23_{12}
Hexadecimal	$1B_{16}$

27 (twenty-seven) is the natural number following 26 and preceding 28. Twenty-seven is the smallest positive integer requiring four syllables to name in English, though it can be unambiguously defined in just two: "three cubed."

In mathematics

Twenty-seven is a perfect cube, being $3^3 = 3 \times 3 \times 3$. 27 is 2_3 (see tetration). There are exactly 27 straight lines on a smooth cubic surface, which give a basis of the fundamental representation of the E_6 Lie algebra. 27 is also a decagonal number.

27 has an aliquot sum of 13 and is the first composite member of the 13-aliquot tree with the aliquot sequence (27,13,1,0). Twenty-seven is the aliquot sum of the two odd discrete semiprimes 69 and 133.

In base 10, it is the first composite number not evenly divisible by any of its digits. It is the radix (base) of the septemvigesimal positional numeral system.

In a prime reciprocal magic square of the multiples of $1/7$, the magic constant is 27.

In the Collatz conjecture (aka the " $3n + 1$ conjecture") a starting value of 27 requires 112 steps to reach 1, many more than any lower number.

The unique simple formally real Jordan algebra, the exceptional Jordan algebra of self-adjoint 3 by 3 matrices of quaternions, is 27-dimensional.^[1]

In base 10, it is a Smith number and a Harshad number.

It is the twenty-eighth (and twenty-ninth) digit in π . (3.141592653589793238462643383**279**...).

If you start counting with 0 it is considered one of few Self-Locating strings in pi^[2].

In science

- The atomic number of cobalt.

Astronomy

- The Messier object M27, a magnitude 7.5 planetary nebula in the constellation Vulpecula, also known as the Dumbbell Nebula.
- The New General Catalogue object NGC 27, a spiral galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on 1993 March and ended on 713 April. The duration of Saros series 27 was 1280.1 years, and it contained 72 solar eclipses. Further, the Saros number of the lunar eclipse series which began on 1944 July and ended on 411 January. The duration of Saros series 27 was 1532.5 years, and it contained 86 lunar eclipses.
- The 27th moon of Jupiter is Sinope.
- The planet Uranus has 27 moons

Electronics

- The type 27 vacuum tube (valve), a triode introduced in 1927, was the first tube mass produced for commercial use to incorporate an indirectly heated cathode. This made it the first vacuum tube that could function as a detector in AC-powered radios. Prior to the introduction of the 27, home radios were powered by a set of three or more storage batteries with voltages of 3 volts to 135 volts.

In music

Many talented and famous rock/blues musicians died at age 27. These include Robert Johnson, Janis Joplin, Jimi Hendrix, Brian Jones, Jim Morrison, Ron "Pigpen" McKernan, Pete Ham, Richey Edwards, and Kurt Cobain. The musicians who died at this age are often referred to as the 27 Club.

There are many songs titled just "Twenty-Seven," so it will suffice to list the most famous: a song by Scottish band Biffy Clyro from their 2002 album, *Blackened Sky*; the song by the Dave Matthews Band "#27," which they began playing on their 2007 summer tour; the Lagwagon song on their album *Double Plaidinum*. A song by rock band Fall Out Boy also bears the title "27," and is on their 2008 album *Folie a Deux*.

An Atlanta based pop/punk band named Cartel also has a song titled "27 Steps" in their 2009 album *Cycles*.

The number also occurs buried in the lyrics without occurring in the title. American parodist "Weird Al" Yankovic hides the number in many of his songs and videos.^[3] Ben Weasel also likes to include the number in his songs for his bands Screeching Weasel and The Riverdales.

In the United States, the number 27 is associated with the East Bay punk scene. There is also a band from Boston simply called 27.

Sector 27 is a rock band founded by Tom Robinson.

In art

The Minneapolis-based artist Deuce 7 (a.k.a. Deuce Seven, Twenty Seven, 27).

In sports

- The number of outs in a regulation baseball game for each team at all adult levels, including professional play, is 27.
- In auto racing, 27 was Gilles Villeneuve's famous Ferrari number, later adopted by his son, Formula One World Champion Jacques Villeneuve, in his NASCAR debut
- The jersey number 27 has been retired by several North American sports teams in honor of past playing greats:
 - In Major League Baseball:
 - The Boston Red Sox, for Hall of Famer Carlton Fisk.
 - The Oakland Athletics, for Hall of Famer Catfish Hunter.
 - The San Francisco Giants, for Hall of Famer Juan Marichal.
 - In the NBA:
 - The Sacramento Kings, for Hall of Famer Jack Twyman, who played with the team in its past incarnations as the Rochester and Cincinnati Royals.
 - In the NHL:
 - The Phoenix Coyotes, for Teppo Numminen.
 - The Toronto Maple Leafs have a policy of not retiring numbers unless the player honoured either died or suffered a career-ending incident while a member of the team. Other players whose numbers would otherwise be retired instead have their numbers enshrined by the team as "Honoured Numbers", which remain in circulation for future players. The number 27 is currently honoured for Frank Mahovlich and Darryl Sittler.
 - No team in the NFL has retired the number.
- The modal age of the peak performance year for Major League Baseball position players, according to a commonly accepted theory by sabermetrician Bill James
- In WWE's annual pay-per-view event *Royal Rumble*, four WWE Superstars had won the 30-man Royal Rumble at #27 more times than any others number, including #1 and #30.

In other fields

Twenty-seven is also:

- The total number of letters in the Hebrew alphabet (22 regular letters and 5 final consonants)
- The current number of Amendments to the United States Constitution
- The code for international direct-dial phone calls to South Africa
- The designation (I-27) of a US interstate highway in Texas
- The designation (US 27) of a United States national highway from Fort Wayne, Indiana to Miami, Florida
- The name of a cigarette, Marlboro Blend No. 27
- Alternate name for *The Hunt*, a book by William Diehl
- The number of the French department Eure
- Abbé Faria's prisoner number in the book *The Count of Monte Cristo*
- The number of species Captain Jean-Luc Picard has made contact with in the series *Star Trek: The Next Generation*
- In the Simpsons episode "Girls Just Want to Have Sums", instead of offering the expected pun-based aphorism, one of the anthropomorphic math symbols Lisa imagines talking to her rather unhelpfully only says, "Twenty-seven".

- In Steven King's novel "It", It returns every 27 years to Derry.

Historical years

27 B.C., 27 A.D., 1827, 1927, 2027, etc.

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[1] V. G. Kac, "Classification of Simple Z-Graded Lie Superalgebras and Simple Jordan Superalgebras" *Communications in Algebra* **5** 13 (1977): 1380

[2] <http://www.angio.net/pi/piquery#comments>

[3] Thread from the Weird AI forum (<http://www.weirdalforum.com/wiki/index.php?title=27>)

- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987), p. 106.
- Mystery of the number 27 (<http://27.chrismore.com>) - Large collection of 27 related trivia and facts.
- Prime Curios! 27 (<http://primes.utm.edu/curios/page.php/27.html>) from the Prime Pages
- The 27 Project (<http://www.27project.org>) - collection of 27 sightings in movies, TV, culture and art

pnb:27

28 (number)

$\leftarrow 27$	
$29 \rightarrow$	
28	
$\leftarrow 20\ 21\ 22\ 23\ 24\ 25\ 26\ 27\ 28\ 29 \rightarrow$	
List of numbers — Integers	
$0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	twenty-eight
Ordinal	28 (twenty-eighth)
Factorization	$2^2 \cdot 7$
Divisors	1, 2, 4, 7, 14, 28
Roman numeral	XXVIII
Binary	11100_2
Octal	34_8
Duodecimal	24_{12}
Hexadecimal	$1C_{16}$

28 (twenty-eight) is the natural number following 27 and preceding 29.

In mathematics

It is a composite number, its proper divisors being 1, 2, 4, 7, and 14.

Twenty-eight is the second perfect number. As a perfect number, it is related to the Mersenne prime 7, since $2^2(2^3 - 1) = 28$. The next perfect number is 496, the previous being 6.

Twenty-eight is the sum of the totient function for the first nine integers.

Twenty-eight is not the aliquot sum of any number other than itself and is therefore not a component in an aliquot sequence.

Since the greatest prime factor of $28^2 + 1 = 785$ is 157, which is more than 28 twice, 28 is a Størmer number.

Twenty-eight is a harmonic divisor number, a happy number, a triangular number, a hexagonal number, and a centered nonagonal number.

It appears in the Padovan sequence, preceded by the terms 12, 16, 21 (it is the sum of the first two of these).

It is also a Keith number, because it recurs in a Fibonacci-like sequence started from its base 10 digits: 2, 8, 10, 18, 28...

Twenty-eight is the third positive integer with a prime factorization of the form 2^2q where q is an odd prime.

Twenty-eight is the ninth and last number in early Indian magic square of order 3.

There are twenty-eight convex uniform honeycombs.

Twenty-eight is the only positive integer that has a unique Kayles nim-value.

In science

- The atomic mass of silicon.
- The atomic number of nickel.
- The fourth magic number in physics.
- The curing time of concrete is classically considered 28 days.
- The average human menstrual cycle is 28 days although no link has been established with the nightlighting and the Moon.

Astronomy

- The revolution time of the surface of the Sun on itself is 28 days while its core is revolving in 33 days.^[1]
- The period of Saturn's revolution around the Sun is about 28 years (in fact: 29.46 years).
- Messier object M28, a magnitude 8.5 globular cluster in the constellation Sagittarius.
- The New General Catalogue object ^[6] NGC 28, an elliptical galaxy in the constellation Phoenix.
- The Saros number ^[7] of the solar eclipse series which began on -1910 March 22 and ended on -630 April 28. The duration of Saros series 28 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -1915 June 27 and ended on -581 September 6. The duration of Saros series 28 was 1334.2 years, and it contained 75 lunar eclipses.

In other fields

Twenty-eight is:

- An abbreviation for such years as 1928 and 2028.
- In Gematriya, the system of Hebrew Numerology, the number 28 corresponds to the word *koakh*, meaning "power", "energy".
- The number of days in the shortest month of the Gregorian calendar, February (except in leap years, when there are twenty-nine). All twelve months of the Gregorian calendar have at least 28 days, regardless of the year.
- The Gregorian calendar follows a 28-year cycle for the most part, since there are seven days in a week and leap year generally occurs every four years; usually, a calendar from any year is the same as that from 28 years earlier (e.g., 2008 and 1980). However, that rule holds only when there have been exactly seven leap days in a 28-year interval; years divisible by 100 but not by 400 are not leap years. Indeed, 1900 (as well as 2100, 2200, etc.) does not use the same calendar as 1872 (2072, 2172, etc., respectively) for the simple reason that 1900 is not a leap year. In 28 years, any day-of-the-week and date combination occurs exactly four times. February 29 will fall on each day of the week once.
- The common name for the parrot 'Barnardius zonarius semitorquatus', widely distributed in Western Australia and South Australia. Its call sounds like "wenniate".
- The number of letters in the Danish and Swedish alphabets (not counting W), and also in the Arabic and Esperanto alphabets.
- In neo-Nazi circles, twenty-eight indicates Blood and Honour (28 = BH - B - second letter of the alphabet and H - the eight letter).
- The number of Chinese constellations, "Xiu" or "mansions" (a literal translation), equivalent to the 12 western zodiac constellations.
- The number of dominoes in standard domino sets.
- Deriving from the 29.46 year period of Saturn's revolution around the Sun, the 28-year cycle as well as its subdivisions by 14 and 7 are supposed in Astrology to mark significant turning points or sections in the course of a persons development in life. Thus, the number 28 has special significance in the culture of religious sects such as the Kadiri and the Mevlevi dervishes. The 28-beat metric pattern often used in the music compositions

accompanying the main part of the Mevlevi sema ritual is called the "Devri kebir", meaning the "Big Circle" and is a reference to above astronomical facts about the year and the Saturn year.

- In Québec, François Pérusse, in one of his best-selling Album du peuple made a parody of Wheel of Fortune in which all of the letters picked by the contestant were present 28 times. As a result, 28 became an almost Mythical number used by many Québec youths, the phrase "Y'en a 28" (There are 28 [Letters]) became a running gag still used and recognized more than 15 years later.
- The Preludes, Opus 28 consists of Frédéric Chopin's 24 preludes for piano, ordinarily but not necessarily played together in concert.
- The postal code of the province of Madrid, in Spain.
- Twenty Eight is a popular game played in Kerala India.
- The number of the French department Eure-et-Loir.
- Approximately the number of grams in an ounce, and used as such in the illegal drug trade.
- The NBA and NHL both operate four best-of-seven rounds during the playoffs; thus, 28 is the maximum number of games that a team could possibly play in the playoff series (neither league has ever had a team play that many games, though).
- The number worn by the Clemson Tigers' record breaking running back C.J. Spiller, former Colts and Rams running back Marshall Faulk, former Bucs and Falcons running back Warrick Dunn, former Kansas City Chiefs running back Abner Haynes, current Titans running back Chris Johnson.
- The number used by former NASCAR driver Davey Allison for his entire NASCAR Winston Cup career.
- In Major League Baseball, 28 is the lowest uniform number that has not been retired by any club.

Historical years

28 A.D., 28 B.C., 1928, 2028, etc.h

References

[1] Stober D. (2010) The strange case of solar flares and radioactive elements (<http://news.stanford.edu/news/2010/august/sun-082310.html>).

- Prime Curios! 28 (<http://primes.utm.edu/curios/page.php/28.html>) from the Prime Pages

pnb:28

29 (number)

← 28 30 → 29	
← 20 21 22 23 24 25 26 27 28 29 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	twenty-nine
Ordinal	29 (twenty-ninth)
Factorization	prime
Divisors	1, 29
Roman numeral	XXIX
Binary	11101 ₂
Octal	35 ₈
Duodecimal	25 ₁₂
Hexadecimal	1D ₁₆

29 (twenty-nine) is the natural number following 28 and preceding 30.

In mathematics

It is the tenth prime number, and also the fourth primorial prime. It forms a twin prime pair with thirty-one, which is also a primorial prime. Twenty-nine is also the sixth Sophie Germain prime. It is also the sum of three consecutive squares, $2^2 + 3^2 + 4^2$. It is a Lucas prime, a Pell prime, and a tetranacci number. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$. Since $18! + 1$ is a multiple of 29 but 29 is not one more than a multiple 18, 29 is a Pillai prime. 29 is also the 10th supersingular prime.

None of the first 29 natural numbers have more than two different prime factors. This is the longest such consecutive sequence.

Twenty-nine is the aliquot sum of the odd discrete bprimes 115 and 187 and is the base of the 29-aliquot tree.

29 is a Markov number, appearing in the solutions to $x^2 + y^2 + z^2 = 3xyz$: {2, 5, 29}, {2, 29, 169}, {5, 29, 433}, {29, 169, 14701}, etc.

29 is a Perrin number, preceded in the sequence by 12, 17, 22.

Since the greatest prime factor of $29^2 + 1 = 842$ is 421, which is obviously more than 29 twice, 29 is a Størmer number.

In science

- The atomic number of copper
- A lunar month is approximately 29 days.

In Religion

- The Bishnois community follows 29 principles. Guru Jambheshwar had laid down 29 principles to be followed by the sect in 1485 A.D. In Hindi, Bish means 20 and noi means 9; thus, Bishnoi translates as Twenty-niners.

Astronomy

- Messier object M29, a magnitude 9.0 open cluster in the constellation Cygnus
- The New General Catalogue object ^[6] NGC 29, a spiral galaxy in the constellation Andromeda
- The Saros number ^[1] of the solar eclipse series which began on -1881 March 1 and ended on -583 April 19. The duration of Saros series 29 was 1298.1 years, and it contained 73 solar eclipses.
- The Saros number ^[2] of the lunar eclipse series which began on -1814 July 21 and ended on -317 January 5. The duration of Saros series 29 was 1496.5 years, and it contained 84 lunar eclipses.
- The lunar month is very close to twenty-nine days.
- Saturn requires over 29 years to orbit the Sun.

In other fields

Twenty-nine is:

- The number of days February has in leap years.
- The number of letters in the Turkish,^[3] Finnish, Swedish,^[4] Faroese,^[5] and Norwegian^[6] alphabets.
- The designation of Interstate 29, a U. S. freeway that runs from Missouri to North Dakota.
- In the name of the town Twentynine Palms, California, also the name of the adjoining Marine Corps Air Ground Combat Center Twentynine Palms, affectionately referred to by Marines as "Twentynine Stumps".^[7]
- The number of suras in the Qur'an that begin with muqatta'at
- The highest possible score in a hand of Cribbage.
- The highest possible score in a hand of Khanhoo.
- An album by Ryan Adams.^[8]
- The track the *Chattanooga Choo Choo* leaves in the Glenn Miller song.
- 29th Regiment of Foot, a former regiment in the British Army.
- The retired jersey number of Rod Carew
- The Olympiad number of the 2008 Summer Olympics
- The number of the French department Finistère
- The amount of attributes existing according to The Strokes in You Only Live Once.
- The retired S.L. Benfica shirt number in memory of Miklos Feher.
- The number every woman in the "wrong age" claims to be. According to "The Nanny".
- The number of CMS Baseball Star John "Zach" "Jay-Z" England
- The number of *Knuts* in one *Sickle* in the fictional currency in the Harry Potter novels
- NASCAR Sprint Cup Series driver Kevin Harvick drives the #29 Shell/Pennzoil Chevrolet Impala SS for Richard Childress Racing.
- \$29.00 is a song on the album Blue Valentine by Tom Waits.

Historical years

29 B.C., **29 A.D.**, 1929, 2029, etc.

References

- [1] <http://eclipse.gsfc.nasa.gov/SEsaros/SEsaros029.html>
 - [2] <http://eclipse.gsfc.nasa.gov/LEsaros/LEsaros029.html>
 - [3] Caroline Finkel, *Osman's Dream*. New York: Basic Books (2006): xv. "The modern Turkish alphabet has 29 letters, of which three vowels and three consonants are unfamiliar to those who do not know the language, and one consonant is pronounced differently from English."
 - [4] (<http://users.jyu.fi/~pamakine/kieli/suomi/aanneoppi/aakkoseten.html>)
 - [5] (<http://www.spiritus-temporis.com/faroese-language/alphabet.html>)
 - [6] Anthony Ham, Miles Roddis & Graeme Cornwallis, *Norway*. New York: Lonely Planet (2005): 413. "The modern Norwegian alphabet has 29 letters: those used in English, plus the vowels **æ**, **ø** and **a** (which are listed at the end of the alphabet)."
 - [7] Stephen F. Tomajczyk, *To Be a U.S. Marine*. New York: Zenith Imprint (2004): 155. "Twenty-nine stumps—Slang for Twenty-nine Palms Marine Corps Air-Ground Combat Center, located in California's Mojave Desert."
 - [8] Hasty, Katie (2007-06-03). "Busy and bored, Adams tames "Tiger"" (http://ca.today.reuters.com/news/newsArticle.aspx?type=entertainmentNews&storyID=2007-06-03T210713Z_01_N03416171_RTRIDST_0_ENTERTAINMENT-ADAMS-COL.XML&archived=False). Reuters/Billboard. . Retrieved 2007-06-04. "The first of the trio, "Cold Roses," has sold 159,000 copies in the United States, according to Nielsen SoundScan. "Jacksonville City Nights" has moved 100,000, and "29" has shifted 81,000."
- Prime Curios! 29 (<http://primes.utm.edu/curios/page.php/29.html>) from the Prime Pages

External links

- On the number 29 (<http://www.wisdomportal.com/Numbers/29.html>) at Wisdom Portal

pnb:29

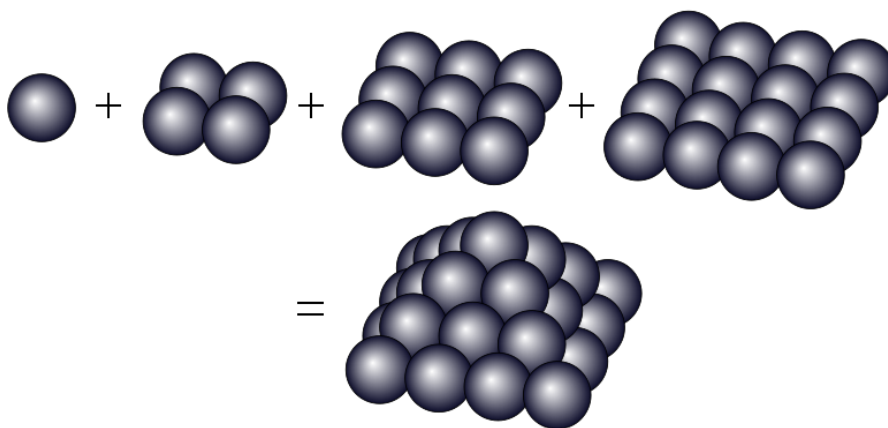
30 (number)

← 30	
31	
32 →	
← 30 31 32 33 34 35 36 37 38 39 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty
Ordinal	31 (thirtieth)
Numeral system	trigesimal
Factorization	$2 \cdot 3 \cdot 5$
Divisors	1, 2, 3, 5, 6, 10, 15, 30
Roman numeral	XXXI
Binary	11111_2
Octal	37_8
Duodecimal	27_{12}
Hexadecimal	$1F_{16}$
Hebrew ל (Lamed)	

30 (**thirty**) is the natural number following 29 and preceding 31.

In mathematics

30 is the sum of the first four squares, which makes it a square pyramidal number.



It is a primorial and is the smallest Giuga number.

30 is the smallest sphenic number, and the smallest of the form $2 \cdot 3 \cdot r$ where r is a prime greater than 3. 30 has an aliquot sum of 42; the second sphenic number and all sphenic numbers of this form have an aliquot sum 12 greater than themselves. The aliquot sequence of 30 is 16 members long, it comprises (30,42,54,66,90,144,259,45,33,15,9,4,3,1,0)

Thirty has but one number for which it is the aliquot sum the square number 841.

Adding up some subsets of its divisors (e.g., 5, 10 and 15) gives 30, hence 30 is a semiperfect number.

30 is the largest number such that coprimes smaller than itself are also prime.^[1]

A polygon with thirty sides is called a tricontagon.

The icosahedron and the dodecahedron are Platonic solids with 30 edges. The icosidodecahedron is an Archimedean solid with 30 vertices, and the Tutte–Coxeter graph is a symmetric graph with 30 vertices.

E_8 has Coxeter number 30.

30 is a Harshad number.

Since any group G such that $|G| = p^n m$, where p does not divide m , has a subgroup of order p^n , and 30 is the only number less than 60 that is not either a prime or of the above form, it is the only candidate for the order of a simple group less than 60 that one needs other methods to reject.

In science

- The atomic number of zinc is 30

Astronomy

- Messier object M30, a magnitude 8.5 globular cluster in the constellation Pegasus
- The New General Catalogue object NGC 30, a double star in the constellation Pegasus
- The Saros number of the solar eclipse series which began on October 2, 2069 BC and ended on March 18, 572 BC. The duration of Saros series 30 was 1496.5 years, and it contained 84 solar eclipses. Further, the Saros number of the lunar eclipse series which began on June 19, 1803 BC and ended on August 18, 487 BC. The duration of Saros series 30 was 1316.2 years, and it contained 74 lunar eclipses.

In other fields

Thirty is:

- Used (as −30−) to indicate the end of a newspaper (or broadcast) story, a copy editor's typographical notation.
- The number of days in the months April, June, September and November (and in unusual circumstances February - see February 30)
- The total number of major and minor keys in Western tonal music, including enharmonic equivalents
- The minimum age for United States senators
- In years of marriage, the pearl wedding anniversary
- The duration in years of the Thirty Years' War - 1618 to 1648.
- The code for international direct dial phone calls to Greece
- The house number of 30 St Mary Axe (The Gherkin)
- The designation of Interstate 30, a freeway that runs from Texas to Arkansas
- The designation of U.S. Route 30, a highway that runs from Oregon to New Jersey
- Various other routes have been numbered "30"; for example, New York State Route 30 which runs from the Pennsylvania border to the Canadian border
- The designation of E30, the European route from Cork to Samara
- The number of tracks on The Beatles' eponymous album, usually known as *The White Album*
- A stage in young adulthood
- Part of the name of:
 - *30 Odd Foot of Grunts*, the band fronted by actor Russell Crowe
 - The movie title *13 Going on 30*, starring Jennifer Garner
 - The title of the Food Network show *30 Minute Meals*

- *30 Days of Night*, a comic book miniseries and film.
- The uniform number of Maury Wills when he played for the Los Angeles Dodgers.
- Judas Iscariot betrayed Jesus for 30 pieces of silver. Matthew 26:15.
- The number of the French department Gard
- Slang for pornography due to its representation as Roman numeral XXX.^[2]
- 30 was the route number of the bus blown up by terrorists in Tavistock Square during the 7th July 2005 bombings in London

Historical years

30 A.D., 30 B.C., 1930, 2030, etc.

History and literature

- At age 30 (according to most biblical scholars) Jesus of Nazareth was baptized by John the Baptist, at the beginning of his public ministry of teaching and healing.
- One of the rallying-cries of the 1960s student/youth protest movement was the slogan, 'Don't trust anyone over thirty'.
- In 'The Myth of Sisyphus' the French existentialist Albert Camus comments that the age of thirty is a crucial period in the life of a man, for at that age he gains a new awareness of the meaning of time.
- In Franz Kafka's novel 'The Trial' Joseph wakes up on the morning of his thirtieth birthday to find himself under arrest for an unspecified crime. After making many futile attempts to find the nature of the crime or the name of his accuser, Joseph dies on the eve of his thirty-first birthday.
- The number of uprights that formed the Sarsen Circle at Stonehenge, also the supposed number of holes forming the arrays of Y and Z Holes at Stonehenge.
- Western Christianity's most prolific 20th century essayist, F. W. Boreham in 'Life at Thirty' ('Cliffs of Opal') mentions that in addition to Jesus commencing ministry at 30 (Luke 3:23), Joseph was 30 when he stood before Pharaoh, King of Egypt (Genesis 41:46), King David was 30 when he began to reign (2 Samuel 5:4), and the Levites were numbered from the age of 30 and upward (1 Chronicles 23:3). Also in that essay Boreham writes 'It was said of [the English poet] Keats, that "he ensphered himself in thirty perfect years and died, not young".'

Sports

- In tennis, the number 30 represents the second point gained in a game.
- The California Angels (now Los Angeles Angels) baseball team retired the number in honor of its most notable wearer, Nolan Ryan, on June 16, 1992. (Ryan is the only major league player to have his number retired by three different teams, though the other two teams retired number 34 for him rather than 30).^[3] The San Francisco Giants extended the same honor to Orlando Cepeda. While on the Chicago White Sox, Nick Swisher wore the number 30 and was known as "The Dirty 30".
- 30 is one of the more common numbers worn by hockey goaltenders (along with 31).
- The number of New Jersey Devils goalie, Martin Brodeur
- Lewis Hamilton became the 30th Formula One World Champion on November 2, 2008.

Music

- The number of variations in Bach's Goldberg Variations
- *30*, album from 2001 by Harry Connick, Jr.
- 30 Seconds to Mars
- 30 Minutes, a song by t.A.T.u

References

- [1] Michael Slone, Every positive integer greater than 30 has at least one composite totative (<http://planetmath.org/encyclopedia/9247.html>) from PlanetMath. Accessed 24 April 2007
- [2] Thirty on Urban Dictionary (<http://www.urbandictionary.com/define.php?term=thirty>) Retrieved January 24, 2009.
- [3] Texas Rangers Retired Number History on mlb.com (http://texas.rangers.mlb.com/NASApp/mlb/tex/history/retired_numbers.jsp) Retrieved May 18, 2006. Note however that Jackie Robinson's number 42 was retired by Major League Baseball for all teams.
- Prime Curios! 30 (<http://primes.utm.edu/curios/page.php/30.html>) from the Prime Pages

pnb:30

31 (number)

← 30	
31	
32 →	
← 30 31 32 33 34 35 36 37 38 39 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-one
Ordinal	31 (thirty-first)
Factorization	prime
Divisors	1, 31
Roman numeral	XXXI
Binary	11111 ₂
Octal	37 ₈
Duodecimal	27 ₁₂
Hexadecimal	1F ₁₆

31 (thirty-one) is the natural number following 30 and preceding 32.

In mathematics

Thirty-one is the third Mersenne prime ($2^5 - 1$) as well as the fourth primorial prime, and together with twenty-nine, another primorial prime, it comprises a twin prime. As a Mersenne prime, 31 is related to the perfect number 496, since $496 = 2^5 - 1 (2^5 - 1)$. 31 is the eighth Mersenne prime exponent. 31 is also the 4th lucky prime and the 11th supersingular prime.

31 is a centered triangular number, a centered pentagonal number and centered decagonal number.

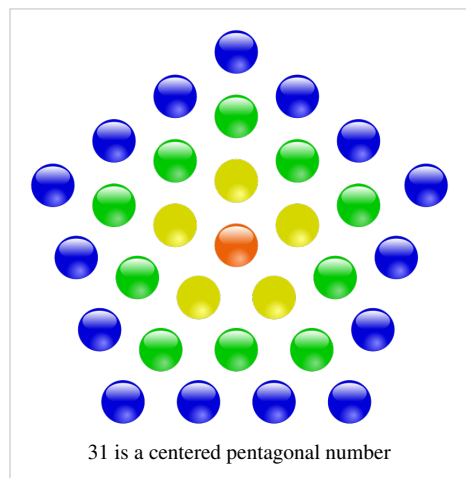
At 31, the Mertens function sets a new low of -4, a value which is not subceded until 110.

No integer added up to its base 10 digits results in 31, making 31 a self number.

31 is a repdigit in base 5 (111), and base 2 (11111).

The numbers 31, 331, 3331, 33331, 333331, 3333331, and 33333331 are all prime. For a time it was thought that every number of the form $3_w 1$ would be prime. However, the next nine numbers of the sequence are composite; their factorisations are:

- $333\ 333\ 331 = 17 \cdot 19607843$
- $3\ 333\ 333\ 331 = 673 \cdot 4952947$
- $33\ 333\ 333\ 331 = 307 \cdot 108577633$
- $333\ 333\ 333\ 331 = 19 \cdot 83 \cdot 211371803$
- $3\ 333\ 333\ 333\ 331 = 523 \cdot 3049 \cdot 2090353$
- $33\ 333\ 333\ 333\ 331 = 607 \cdot 1511 \cdot 1997 \cdot 18199$
- $333\ 333\ 333\ 333\ 331 = 181 \cdot 1841620626151$



- $3\ 333\ 333\ 333\ 333\ 331 = 199 * 16750418760469$
- $33\ 333\ 333\ 333\ 333\ 331 = 31 * 1499 * 717324094199$.

The recurrence of the factor 31 in the last number above can be used to prove that no sequence of the type $R_w E$ or ER_w can consist only of primes because every prime in the sequence will periodically divide further numbers. Here, 31 divides every fifteenth number in $3_w 1$ (and 331 every 110th).

In science

- The atomic number of gallium

Astronomy

- Messier object M31, a magnitude 4.5 galaxy in the constellation Andromeda. It is also known as the Andromeda Galaxy, and is readily visible to the naked eye in a modestly dark sky.
- The New General Catalogue object ^[6]NGC 31, a spiral galaxy in the constellation Phoenix
- The Saros number ^[7]of the solar eclipse series which began on -1805 January 31 and ended on -489 March 31. The duration of Saros series 31 was 1316.2 years, and it contained 74 solar eclipses.
- The Saros number ^[8]of the lunar eclipse series which began on -1774 May 30 and ended on -476 July 17. The duration of Saros series 31 was 1298.1 years, and it contained 73 lunar eclipses.

In sports

The jersey number 31 has been retired by several North American sports teams in honor of past playing greats:

- In Major League Baseball:
 - The San Diego Padres, for Hall of Famer Dave Winfield.
 - The Chicago Cubs, for Hall of Famer Ferguson Jenkins and likely future Hall of Famer Greg Maddux.
 - The Atlanta Braves, also for Maddux.
- In the NBA:
 - The Boston Celtics, for Cedric Maxwell.
 - The Indiana Pacers, for Reggie Miller.
- In the NHL:
 - The Edmonton Oilers, for Grant Fuhr.
 - The New York Islanders, for Billy Smith.
- In the NFL:
 - The Atlanta Falcons, for William Andrews.
 - The New Orleans Saints, for Jim Taylor.
- In the AFL
 - 10-time premiership winning player/coach Ron Barrassi.

NASCAR driver Jeff Burton drives #31, a car which was subject to a controversy when one of the sponsors changed its name after merging with another company.

In ice hockey goaltenders often wear the number 31.

In other fields

Thirty-one is also:

- The number of days in the months January, March, May, July, August, October and December
- The code for international direct-dial phone calls to the Netherlands
- A card game (see *Thirty-one (game)*)^[1]
- A type of game played on a backgammon board
- The number of flavors of Baskin-Robbins ice cream and the shops are called *31 Ice Cream* ^[2] in Japan
- ISO 31 is the ISO's standard for quantities and units
- In the title of the anime *Ulysses 31*
- In the title of Nick Hornby's book *31 Songs*
- Turkish slang for masturbation ("otuzbir")
- A women's honorary at The University of Alabama (XXXI)
- The number of the French department Haute-Garonne
- In music, 31-tone equal temperament is a historically significant tuning system (31 equal temperament), first theorized by Christian Huygens and promulgated in the 20th century by Adriaan Fokker

Historical years

31 A.D., 31 B.C., 1931, 2031, etc.

References

[1] Room, Adrian. *The Guinness Book of Numbers* Middlesex: Guinness Publishing Ltd. (1989): 128

[2] <http://www.31ice.co.jp/brj/index.htm>

External links

- Prime Curios! 31 (<http://primes.utm.edu/curios/page.php/31.html>) from the Prime Pages

pnb:31

32 (number)

← 31	
33 →	
32	
← 30 31 32 33 34 35 36 37 38 39 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-two
Ordinal	32 (thirty-second)
Factorization	2^5
Divisors	1, 2, 4, 8, 16, 32
Roman numeral	XXXII
Binary	100000_2
Octal	40_8
Duodecimal	28_{12}
Hexadecimal	20_{16}

32 (thirty-two) is the natural number following 31 and preceding 33.

In mathematics

32 is the smallest number n with exactly 7 solutions to the equation $\varphi(x) = n$. It is also the sum of the totient function for the first ten integers.

The fifth power of two, 32 is also a Leyland number since $2^4 + 4^2 = 32$.

As with every power of two, 32 has an aliquot sum one less than itself: the prime 31. 32 is the first member of the 31-aliquot tree.

32 is the ninth happy number.

$$32 = 1^1 + 2^2 + 3^3$$

In science

- The atomic number of germanium
- The freezing point of water at sea level in degrees Fahrenheit

Astronomy

- Messier 32, a magnitude 9.0 galaxy in the constellation Andromeda which is a companion to M31.
- The New General Catalogue object ^[6]NGC 32, a star in the constellation Pegasus
- The Saros number ^[7]of the solar eclipse series which began on September 24, 1957 BC and ended on March 10, 460 BC. The duration of Saros series 32 was 1496.5 years, and it contained 84 solar eclipses.
- The Saros number ^[8]of the lunar eclipse series which began on June 11, 1691 BC and ended on August 9, 375 BC. The duration of Saros series 32 was 1316.2 years, and it contained 74 lunar eclipses.

In music

- The number of completed, numbered piano sonatas by Ludwig van Beethoven
- In the title and lyrics of the song "32 Footsteps" by They Might Be Giants
- The lyrics of Regina Spektor's song "Oedipus" include the line "32 is still a god damn number".
- In the title of the song "The Chamber of 32 Doors" by Genesis, from their 1974 concept album *The Lamb Lies Down On Broadway*
- The title of "32", a song on Mr. Mister's debut album *I Wear the Face*

In religion

In the Kabbalah, there are 32 Kabbalistic Paths of Wisdom.

One of the central texts of the Pāli Canon in the Theravada Buddhist tradition, the Dīgha Nikāya, describes the appearance of the historical Buddha with a list of 32 physical characteristics.

In sports

Norwegian BMX rider and Olympian Sebastian Kartfjord's career number is 32.

The winning car number of Ray Harroun in the inaugural Indianapolis 500 in 1911.

In chess, the total number of black squares on the board, the total number of white squares, and the total number of pieces (black and white) at the beginning of the game.

The jersey number 32 has been retired by several North American sports teams in honor of past playing greats:

- In Major League Baseball:
 - The Houston Astros, for Jim Umbricht.
 - The Los Angeles Dodgers, for Hall of Famer Sandy Koufax.
 - The New York Yankees, for Elston Howard.
 - The Philadelphia Phillies, for Hall of Famer Steve Carlton.
- In the NFL:
 - The Cleveland Browns, for Hall of Famer Jim Brown.
 - The New York Giants, for Al Blozis, who left the team to serve with the United States Army in World War II and was killed in action in 1945.
 - Although the Buffalo Bills have not officially retired #32, they have not issued it since Hall of Famer O. J. Simpson was traded from the team in 1977.
 - The Pittsburgh Steelers currently have a policy of not retiring numbers, having retired only one number (70) in their earlier history. However, the Steelers have not issued #32 since the retirement of Hall of Famer Franco Harris.
- In the NBA:
 - The Boston Celtics, for Hall of Famer Kevin McHale.
 - The Los Angeles Lakers, for Hall of Famer Magic Johnson.
 - The Milwaukee Bucks, for Brian Winters.
 - The New Jersey Nets, for Hall of Famer Julius Erving, who played with the team when it was on Long Island as the New York Nets.
 - The Philadelphia 76ers, for Hall of Famer Billy Cunningham. The Sixers briefly took the number out of retirement with Cunningham's blessing to issue it to another future Hall of Famer, Charles Barkley.
 - The Portland Trail Blazers, for Hall of Famer Bill Walton.
 - The San Antonio Spurs, for Sean Elliott.

- The Seattle SuperSonics, for Fred Brown. The team has since relocated to become the Oklahoma City Thunder, but the Thunder has yet to issue any of the numbers retired by the franchise in Seattle.
- The Utah Jazz, for Hall of Famer Karl Malone.
- In the NHL:
 - The Washington Capitals, for Dale Hunter.

In association football, Manchester City football player Carlos Tévez also wears the number. Since joining Milan on loan in January 2008, David Beckham has adopted the number 32 shirt. Also Alessandro Diamanti has adopted the number at West Ham United after number 23 was already in use. Arsenal's Theo Walcott wears the number 32 and Swindon Town's Charlie Austin also wears the number 32 .

The jersey number for Shaquille O'Neal during his playing time with the Miami Heat, Phoenix Suns, and Orlando Magic.

The jersey number for Richard Hamilton, who plays for the Detroit Pistons.

The jersey number for O. J. Mayo, who plays for the Memphis Grizzlies.

Roy Halladay wore the number 32 during his tenure with the Toronto Blue Jays. Josh Hamilton of the Texas Rangers wears number 32.

The number of teams in the National Football League.

The number of national teams that have participated in each FIFA World Cup finals tournament since 1998.

A soccer ball is typically made with 32 panels of leather or synthetic material.

In other fields

Thirty-two could also refer to:

- The number of teeth of a full set of teeth in an adult human, including wisdom teeth
- The size of a databus in bits: 32-bit
- The size, in bits, of certain integer data types, used in computer representations of numbers
- IPv4 uses 32-bit (4-byte) addresses
- ASCII and Unicode code point for space
- The code for international direct dial phone calls to Belgium
- In the title *Thirty-Two Short Films About Glenn Gould*, starring Colm Feore
- Article 32 of the UCMJ concerns pre-trial investigations. Such a hearing is often called an "article 32 hearing"
- Sometimes considered to be the occult opposite of number 23
- The caliber .32 ACP
- The number of pages in the average comic book (not including the cover)
- The number of the French department Gers
- The traditional 32 counties of Ireland

Historical years

32 AD, 32 B.C., 1932, 2032, etc.

References

- Prime Curios! 32 ^[1] from the Prime Pages

pnb:32

References

[1] <http://primes.utm.edu/curios/page.php/32.html>

33 (number)

<p>← 32 34 →</p> <p>33</p> <p>← 30 31 32 33 34 35 36 37 38 39 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	thirty-three
Ordinal	33 (thirty-third the number 33)
Factorization	$3 \cdot 11$
Divisors	1, 3, 11, 33
Roman numeral	XXXIII
Binary	100001_2
Octal	41_8
Duodecimal	29_{12}
Hexadecimal	21_{16}

33 (thirty-three) is the natural number following 32 and preceding 34.

In mathematics

33 is the largest positive integer that cannot be expressed as a sum of different triangular numbers. It is also the smallest odd repdigit that's not prime (unless we consider 1-digit integers to also be repdigits).

33 is the eighth distinct semiprime comprising the prime factors ($3 \cdot 11$). Its aliquot sum is 15; itself a discrete semiprime ($3 \cdot 5$) in the following Aliquot sequence 33,15,9,4,3,1,0. (Note 33 is the 8th composite number to descend into the prime number 3, the others outside of this sequence being 30,26,16,12) Since 33 is a semiprime with both its prime factors being Gaussian primes, 33 is a Blum integer.

The sum of the first four positive factorials is 33. Adding up the sums of divisors of 1 through 6 yields 33. 33 is the smallest integer such that it and the next two integers all have the same number of divisors.

It is also the first member of the first cluster of three semiprimes (33,34,35); the next such cluster is (85,86,87).

Since the greatest prime factor of $33^2 + 1 = 1090$ is 109, which is obviously more than 33 twice, 33 is a Størmer number.

In science

- The atomic number of arsenic
- A normal human spine has 33 vertebrae when the bones that form the coccyx are counted individually
- 33 is, according to the Newton scale, the temperature at which water boils.

Astronomy

- Messier object M33, a magnitude 7.0 galaxy in the constellation Triangulum, also known as the Triangulum Galaxy.
- The New General Catalogue object ^[6]NGC 33, a double star in the constellation Pisces
- The Saros number ^[7] of the solar eclipse series which began on -1982 August 2 and ended on -485 January 17. The duration of Saros series 33 was 1496.5 years, and it contained 84 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -1662 May 22 and ended on -364 July 10. The duration of Saros series 33 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- Lag Ba'omer is a minor Jewish holiday which falls on the 33rd day of the Omer
- Jesus's age when he was crucified in 33 A.D., according to many, though not verified historically.^[1]
- According to Al-Ghazali the dwellers of Heaven will exist eternally in a state of being age 33.^[2]
- Jesus performed 33 recorded miracles
- 33 is not only a numerical representation of "the Star of David," but also the numerical equivalent of AMEN: 1+13+5+14=33.
- Pope John Paul I, the 33-day pope. One of the shortest reigns in papal history, and it resulted in the most recent 3-pope year.

In sports

The number of innings played in the longest baseball game in history (a 1981 minor league game between the Rochester Red Wings and the Pawtucket Red Sox in Pawtucket, Rhode Island).

- Number of retired hockey goalie Patrick Roy.
- Number of retired professional American football player Tony Dorsett
- Jersey number of baseball player Eddie Murray. The number was retired by the Baltimore Orioles in 1998.
- Jersey number of basketball player Larry Bird. The number was retired on February 4, 1993 by the Boston Celtics^[3]
- Jersey number of basketball player Kareem Abdul-Jabbar. The number was retired on March 20, 1989 by the Los Angeles Lakers
- Jersey number of basketball player Patrick Ewing. The number was retired on February 28, 2003 by the New York Knicks.
- Jersey number of basketball player Scottie Pippen. The number was retired on December 9, 2005 by the Chicago Bulls.
- Kerry Earnhardt's Sprint Cup Series number for Richard Childress Racing
- Race number of MotoGP rider Marco Melandri.
- On most occasions, the traditional number of racers in the Indianapolis 500

In other fields

Thirty-three is:

- In reference to gramophone records, 33 refers to a type of record by its revolution speed of 33⅓ revolutions per minute. 33s are also known as long playing records, or LPs. See: 78 and 45
- A significant number in modern numerology, one of the master numbers along with 11 and 22
- A song by The Smashing Pumpkins on their album, *Mellon Collie and the Infinite Sadness*. Also a song by Coheed and Cambria on their album, *The Second Stage Turbine Blade* (the songs are not related)
- The title of the first episode of the new *Battlestar Galactica* television series
- The 33 Strategies of War is a book by Robert Greene
- In French, Italian, Romanian, Spanish and Portuguese, the word a patient is usually asked to say when a doctor is listening to his or her lungs with a stethoscope (*Trente-Trois*, *Trentatatrè*, *Treizeci și trei*, *Treinta y Tres* and *Trinta e Três*)
- The code for international direct-dial phone calls to France
- The number printed on all Rolling Rock beer labels
- '33' is a Vietnamese beer that American soldiers became familiar with during the war.
- '33' (three-three) is a Nigerian produced brand of beer.
- Pabst Blue Ribbon Beer used to be advertised as "Blended 33 to 1".
- The namesake of the private club, Club 33, located in Disneyland's New Orleans Square.
- The Scottish Rite of Freemasonry has 33 degrees.
- 33 is one of the symbols of Ku Klux Klan. (K is the 11. alphabet, 3 times 11 is 33, KKK)
- 33 were Uruguay's national Independence Heroes that liberate the country in 1825 from the Brazilian Empire, they are popularly known as "*Treinta y Tres Orientales*" (The Thirty-Three Orientals), one of Uruguay's national states and its capital city is named "*Treinta y Tres*" after them.
- A religious image of the Virgin Mary from the 18th century is known in Uruguay as "Virgen de los Treinta y Tres" (Virgin of the Thirty-Three) consecrated by Pope John Paul II in his visit to Uruguay in 1988.
- 2008 is the first time in 33 years that the United States has sent a satellite to explore and orbit Mercury (January 15, 2008)
- Progressive Metal band Meshuggah released their album "Catch 33" in the year 2005.
- In 2008, musician Teddy Geiger gives clues to fans about his new single, "march" which dropped March 3, or "33". In late May he announced 33 brand new songs that his fans could choose from to create their own album, called TG33.
- The number 33 was discovered to lead to the essential meaning of life (the Bible) in Dan Brown's 2009 novel "The Lost Symbol".
- The highest degree achieved in the Scottish Rite of Free Masonry is the 33rd degree.

Historical years

33 A.D., 33 B.C., 1933

References

- [1] de Vries, Ad (1976). *Dictionary of Symbols and Imagery*. Amsterdam: North-Holland Publishing Company. pp. 462. ISBN 0-7204-8021-3.
- [2] Imam Gazzali's Ihya ulum-id-din, Volume 4 (http://books.google.com/books?ei=rQ_hSquCoHclQTW9PysDA&id=4pAwAAAAYAAJ&q=sixty+cubits+long)
- [3] <http://www.nba.com/celtics/history/RetiredNumbers.html>

- Prime Curios! 33 (<http://primes.utm.edu/curios/page.php/33.html>) from the Prime Pages

pnb:33

34 (number)

← 33 35 → 34	
← 30 31 32 33 34 35 36 37 38 39 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-four
Ordinal	34 (thirty-fourth)
Factorization	$2 \cdot 17$
Divisors	1, 2, 17, 34
Roman numeral	XXXIV
Binary	100010_2
Octal	42_8
Duodecimal	$2A_{12}$
Hexadecimal	22_{16}

34 (thirty-four) is the natural number following 33 and preceding 35.

In mathematics

34 is the ninth distinct semiprime and has four divisors including unity and itself. Its neighbors, 33 and 35 also are distinct semiprimes having four divisors each, and 34 is the smallest number to be surrounded by numbers with the same number of divisors as it has. It is also in the first cluster of three distinct semiprime, being within; 33,34,35, the next such cluster of semiprimes is; 85,86,87.

It is the ninth Fibonacci number and a companion Pell number. Since it is an odd-indexed Fibonacci number, 34 is a Markov number, appearing in solutions with other Fibonacci numbers, such as (1, 13, 34), (1, 34, 89), etc.

This number is the magic constant of a 4 by 4 normal magic square^[1]

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

Thirty-four is a heptagonal number.

It has the aliquot sum, 20, in the following descending sequence 34,20,22,14,10,8,7,1. and it is the 6th composite member of the 7-aliquot tree.

There is no answer to the equation $\varphi(x) = 34$, making 34 a nontotient. Nor is there an answer to the equation $x - \varphi(x) = 34$, making 34 a noncototient.

In science

- The atomic number of selenium
- Messier object M34, a magnitude 6.0 open cluster in the constellation Perseus
- The New General Catalogue object ^[6] NGC 34, a peculiar galaxy in the constellation Cetus
- The Saros number ^[7] of the solar eclipse series which began on 1917 BC August and ended on 384 BC February. The duration of Saros series 34 was 1532.5 years, and it contained 86 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on 1633 BC May and ended on 335 BC June. The duration of Saros series 34 was 1298.1 years, and it contained 73 lunar eclipses.

In sports

- In baseball:
 - The number has been retired by the following teams:
 - The Minnesota Twins in honor of Kirby Puckett.
 - The Houston Astros and Texas Rangers in honor of Nolan Ryan.
 - The Oakland Athletics and Milwaukee Brewers in honor of Rollie Fingers.
 - The number was also that of Angels starting pitcher Nick Adenhardt, who died on a hit and run accident on April 9, 2009.
- In basketball:
 - The number retired by the Houston Rockets in honor of its most famous wearer, Hakeem Olajuwon.
 - Boston Celtics small forward Paul Pierce wears number 34
 - The number worn by Shaquille O'Neal during his run with the Los Angeles Lakers.
- In American football:
 - The number retired by the Chicago Bears in honor of Walter Payton.
 - The number retired by the Houston Oilers/Tennessee Titans in honor of Earl Campbell

In other fields

34 is also:

- The traffic code of Istanbul, Turkey
- Rule 34 of the Internet, a meme which states that "If it exists, there is porn of it. No exceptions."^[2]
- *Rule 34*, a novel by Charles Stross due July 2011^[3]
- "#34," a song by the Dave Matthews Band
- The magic square puzzle in the 1970s *34 Skidoo*
- In the title of the 1947 movie *Miracle on 34th Street*, remade in 1994
- The number of the French department Hérault
- +34 is the code for international direct-dial phone calls to Spain
- The lucky number of Victor Pelevin's protagonist Stepan Mikhailov in the novel "Numbers", published as part of DTT(NN) [Dialectics in Times of Transition (from Nowhere into Nothing)]
- Request for production, Rule 34 of the U.S. Federal Rules of Civil Procedure.

Historical years

34 A.D., 34 B.C., 1934, 2034, etc.

References

- [1] Higgins, Peter (2008). *Number Story: From Counting to Cryptography*. New York: Copeinicus. p. 53. ISBN 978-1-84800-000-1.
- [2] "Internet rules and laws: the top 10, from Godwin to Poe" (<http://www.telegraph.co.uk/technology/news/6408927/Internet-rules-and-laws-the-top-10-from-Godwin-to-Poe.html>). The Daily Telegraph. 2009-10-23. . Retrieved 2010-11-12.
- [3] <http://www.antipope.org/charlie/blog-static/2010/08/apropos-nothing.html>

External links

- Prime Curios! 34 (<http://primes.utm.edu/curios/page.php/34.html>) from the Prime Pages

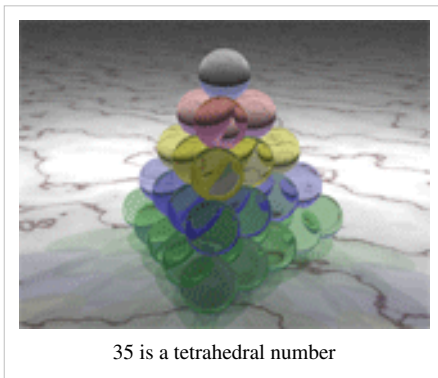
pnb:34

35 (number)

← 34	
36 →	
35	
← 30 31 32 33 34 35 36 37 38 39 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-five
Ordinal	35 (thirty-fifth)
Factorization	$5 \cdot 7$
Divisors	1, 5, 7, 35
Roman numeral	XXXV
Binary	100011_2
Octal	43_8
Duodecimal	$2B_{12}$
Hexadecimal	23_{16}

35 (thirty-five) is the natural number following 34 and preceding 36.

In mathematics



35 is a tetrahedral number

35 is the sum of the first five triangular numbers, making it a tetrahedral number.

35 is a centered cube number, a pentagonal number and a pentatope number.

35 is a highly cototient number, since there are more solutions to the equation $x - \varphi(x) = 35$ than there are for any other integers below it except 1.

There are 35 free hexominoes, the polyominoes made from six squares.

Since the greatest prime factor of $35^2 + 1 = 1226$ is 613, which is obviously more than 35 twice, 35 is a Størmer number.

35 is a discrete semiprime (or biprime) (5×7); the tenth, and the first with 5 as the lowest non-unitary factor. The aliquot sum of 35 is 13 this being the second composite number with such an aliquot sum; the first being the cube 27. 35 is the last member of the first triple cluster of semiprimes 33,34,35. 85,86,87 is the second such triple discrete semiprime cluster.

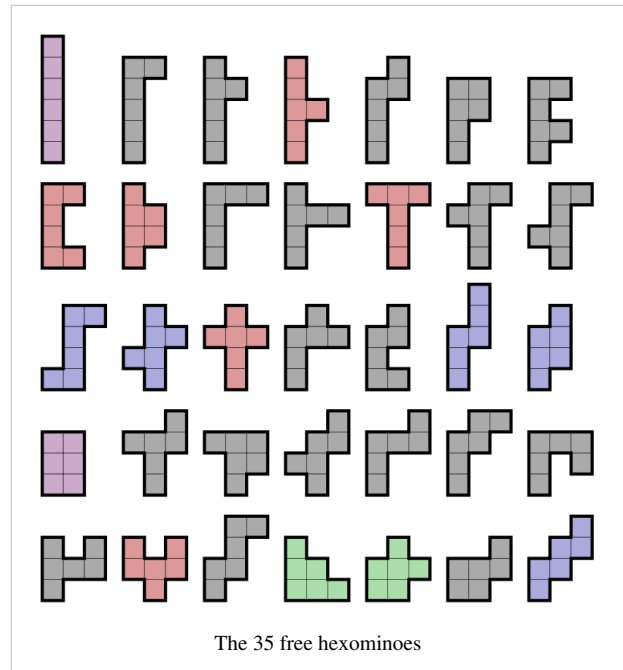
35 is the highest number one can count to on one's fingers using base 6.

In science

- The atomic number of bromine

Astronomy

- Messier object M35, a magnitude 5.5 open cluster in the constellation Gemini



- The New General Catalogue object ^[6] NGC 35, a galaxy in the constellation Cetus
- The Saros number ^[7] of the solar eclipse series which began on -1870 (1871 BC) July 25 and ended on -373 (374 BC) January 9. The duration of Saros series 35 was 1496.5 years, and it contained 84 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -1550 (1551 BC) May 14 and ended on -252 (253 BC) July 1. The duration of Saros series 35 was 1298.1 years, and it contained 73 lunar eclipses.

In other fields

35 is also:

- 35 as a greeting is often used in Croatia. It is used the same way as a word "respect" in some cultures. Pronounced tri'spet
- 35 mm film is the basic film gauge most commonly used for both analog photography and motion pictures
- "35 c", a song by Jagúar from the album *Jagúar*
- In years of marriage, the coral wedding anniversary
- The designation of Interstate 35, a freeway that runs from Texas to Minnesota and the only freeway to have East–West divisions (in two places, the Twin Cities and the DFW Metroplex)
- In Ancient Rome, the age of a man in his prime, at which he was eligible to become a consul.^[1]
- The minimum age (in years) of candidates for election to the position of President of the United States, President of Ireland and President of Poland
- Convoy of 35 Israeli soldiers, who were killed in the war of independence in 1948
- The retired baseball jersey of Randy Jones

- Licence Plate code of Izmir/Turkey.
- The number of the French department Ille-et-Vilaine
- The passing grade in many Indian Colleges (out of 100). Scoring a 35 is known to many students as getting a "Stamp"
- XXXV (album), the thirty-fifth anniversary album by folk rock band Fairport Convention
- 35 is the title of a book written by Casper Schipper
- The number 35 was worn by retired Yankees and Orioles pitcher Mike Mussina.
- Rule 35 of the internet states that if there is no pornography of it, there will be.
- 35% is the amount of our waking time we spend at work (assuming a 40 hour work week and 8 hours of sleep).
- The F-35 Lightning II Aircraft



Historical years

35 A.D., 35 B.C., 1935, 2035, etc.

References

- [1] de Vries, Ad (1976). *Dictionary of Symbols and Imagery*. Amsterdam: North-Holland Publishing Company. pp. 462. ISBN 0-7204-8021-3.
pnb:35

36 (number)

<p>← 35</p> <p style="text-align: right;">37 →</p> <p style="text-align: center;">36</p>	
<p>← 30 31 32 33 34 35 36 37 38 39 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	thirty-six
Ordinal	36 (thirty-sixth)
Factorization	$2^2 \cdot 3^2$
Divisors	1, 2, 3, 4, 6, 9, 12, 18, 36
Roman numeral	XXXVI
Binary	100100_2
Octal	44_8
Duodecimal	30_{12}
Hexadecimal	24_{16}

36 (**thirty-six**) is the natural number following 35 and preceding 37.

In mathematics

36 is both the square of 6 and a triangular number, making it a square triangular number. It is the smallest square triangular number other than 1, and it is also the only triangular number whose square root is also a triangular number.

It is also a 13-gonal number.

It is the smallest number n with exactly 8 solutions to the equation $\varphi(x) = n$. Being the smallest number with exactly 9 divisors, 36 is a highly composite number. Adding up some subsets of its divisors (e.g., 6, 12 and 18) gives 36, hence 36 is a semiperfect number.

This number is the sum of a twin prime (17 + 19), the sum of the cubes of the first three integers, and the product of the squares of the first three integers.

36 is the number of degrees in the interior angle of each tip of a regular pentagram.

The thirty-six officers problem is a mathematical puzzle.

The number of possible outcomes (not summed) in the roll of two distinct dice.

36 is the largest numeric base that some computer systems support because it exhausts the numerals, 0-9, and the letters, A-Z. See Base 36.

The truncated cube and the truncated octahedron are Archimedean solids with 36 edges.

In base 10, it is a Harshad number.

The number of domino tilings of a 4×4 checkerboard is 36.

Since it is possible to find sequences of 36 consecutive integers such that each inner member shares a factor with either the first or the last member, 36 is an Erdős–Woods number.

Because $36^2 + 1 = 1297$, a prime, which is obviously more than 2×36 , 36 is a Størmer number.

The sum of the integers from 1 to 36 is 666 (see number of the beast).

Measurements

- The number of inches in a yard.^[1]
- In the UK, a standard beer barrel is 36 UK gallons, about 163.7 litres.^[1]

In science

- The atomic number of krypton^[2]
- Many early computers featured a 36-bit word length^[3]
- ASCII code for the symbol '\$'^[4]

Astronomy

- Messier object M36, a magnitude 6.5 open cluster in the constellation Auriga^[5]
- The New General Catalogue object^[6] NGC 36, a spiral galaxy in the constellation Pisces^[6]

In religion

- Jewish tradition holds that the number 36 has had special significance since the beginning of time: According to the Midrash, the light created by God on the first day of creation shone for exactly 36 hours; it was replaced by the light of the Sun that was created on the Fourth Day.^[7] The Torah commands 36 times to love, respect and protect the stranger.^[7] Furthermore, in every generation there are 36 righteous people (the "*Lamed Vav Tzadikim*") in whose merit the world continues to exist.^[7] In the modern celebration of Hannukah, 36 candles are kindled in the menorah over the 8 days of that holiday (not including the *shamash* candle).^[7]
- In one Māori legend, concerning the creation of mankind by the god Tāne, 36 gods took active part in assembling the various parts of the first human before Tāne breathed life into her.^[8]
- In Shaivism (s.a. Kaśmir Śaivism), The 36 tattvas describe the Absolute, its internal aspects and the creation including living beings, down to the physical reality.

In the arts, culture, and philosophy

- The 36 Views of Mount Fuji, a famous series of prints by Japanese ukiyo-e artist Katsushika Hokusai
- The 36th Chamber of Shaolin is a 1978 kung fu film
- *36 Quai des Orfèvres*, often referred to simply as *36*, a French police film
- The Thirty-Six Dramatic Situations are considered a useful conceptual aid in theater.
- The Thirty-Six Stratagems are a collection of Chinese proverbs illustrating useful approaches to conflict situations.
- In French-speaking countries, 36 is often used as a placeholder number.
- 36 Crazyfists are a four-piece metal band from Alaska.
- 36 is a song on *Steal This Album!* by System of a Down.
- 36 is a movie releasing in 2010, directed by Martin Campbell.
- *The 36 Lessons of Vivec* is the title of a book series in the video game *The Elder Scrolls III: Morrowind*.

In sports

- Australian Basketball team The Adelaide 36ers^[9]
- Retired number of former baseball players Robin Roberts^[10] of the Phillies and Gaylord Perry^[11] of the Giants.
- Retired number of former basketball player Lloyd Neal of the Portland Trail Blazers^[12]

In other fields

Thirty-six may also refer to:

- IBM System/36, a minicomputer
- The number of the French department Indre
- Perfect score on the ACT.
- (Oilfield terminology): A pipe wrench 36 inches long

Historical years

36 A.D., 36 B.C., 1936, 2036, etc.

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37 (number)

← 36	
37	
38 →	
← 30 31 32 33 34 35 36 37 38 39 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-seven
Ordinal	37 (thirty-seventh)
Factorization	prime
Divisors	1, 37
Roman numeral	XXXVII
Binary	100101 ₂
Octal	45 ₈
Duodecimal	31 ₁₂
Hexadecimal	25 ₁₆

37 (thirty-seven) is the natural number following 36 and preceding 38.

In mathematics

It is a prime number, the fifth lucky prime, the first irregular prime, the third unique prime and the third Cuban prime of the form

$$p = \frac{x^3 - y^3}{x - y} \quad (x = y + 1).$$

It is a factor of all 3-digit base 10 repdigits, such as 111. 37 is the smallest prime that is not also a supersingular prime. It is a centered hexagonal number and a star number.

37 and 38 are the first pair of consecutive positive integers not divisible by any of their digits.

Every positive integer is the sum of at most 37 fifth powers (see Waring's problem).

37 appears in the Padovan sequence, preceded by the terms 16, 21, and 28 (it is the sum of the first two of these).

Since the greatest prime factor of $37^2 + 1 = 1370$ is 137, which is obviously more than 37 twice, 37 is a Størmer number.

37 is the only two digit number in base 10 whose product, when multiplied by two, subtracted by one, and then read backwards, equals the original two digit number: $37 \times 2 = 74$, $74 - 1 = 73$, 73 backwards is 37.

37 is the only two digit number in base 10 with the following property: The difference between the two digits equals the square root of the difference between the number itself and the least common multiple of the two digits.

In science

- The atomic number of rubidium.
- The normal human body temperature in degrees Celsius.

Astronomy

- Messier object M37, a magnitude 6.0 open cluster in the constellation Auriga
- The New General Catalogue object NGC 37, a spiral galaxy in the constellation Phoenix
- The Saros number of the solar eclipse series which began on -1794 June 25 and ended on -496 August 12. The duration of Saros series 37 was 1298.1 years, and it contained 73 solar eclipses.
- The Saros number of the lunar eclipse series which began on -1492 April 3 and ended on -194 May 22. The duration of Saros series 37 was 1298.1 years, and it contained 73 lunar eclipses.
- The number of as-of-yet unidentified radio signals that have been received from outer space

In sports

The jersey number 37 has been retired by several North American sports teams in honor of past greats:

- In Major League Baseball:
 - The New York Mets, for Hall of Fame manager Casey Stengel, who was the team's first manager.
 - The New York Yankees, also for Stengel. This honor made him the only manager to date to have had his number retired by two different teams (the Mets in 1965, the Yankees in 1970).
- In the NFL:
 - The Detroit Lions, for Doak Walker.
 - The San Francisco 49ers, for Jimmy Johnson (not to be confused with the coach of the same name).

In other fields

Thirty-seven is:

- The number of plays William Shakespeare is thought to have written (counting *Henry IV* as three parts).^[1]
- The number of the French department Indre-et-Loire
- The number of slots in European Roulette (numbered 0 through 36, the 00 is not used in European roulette as it is in American roulette)
- I-37, a disambiguation page
- Municipal Okrug #37, name of Yugo-Zapad Municipal Okrug of Krasnoselsky District of Saint Petersburg, Russia, before 2009
- +37 was the international dialing code of the German Democratic Republic (aka East Germany). Today the +37 prefix is shared by Lithuania (+370), Latvia (+371), Estonia (+372), Moldavia (+373), Armenia (+374), Belarus (+375), Andorra (+376), Monaco (+377), San Marino (+378) and Vatican City (+379).
- A television channel reserved for radioastronomy in the United States
- The protagonist in the book *This Number Speaks* (Publish America 2008) by Jason Patrick Doherty, is named Thirty-Seven
- Paul Newman's inmate number in Cool Hand Luke



House number in Baarle
(Belgian part)

Historical years

37 B.C., 37 A.D., 1837, 1937, 2037

See also

- List of highways numbered 37

References

[1] Adam Spencer, *Adam Spencer's Book of Numbers*. New York: Four Walls Eight Windows (2004): 61

Related links

- "37 Factoids" page (<http://thirty-seven.org/index.html>)

pnb:37

38 (number)

*This article discusses the number **thirty-eight**. For the year 38 CE, see 38. For other uses of 38, Go 38&39 race team see 38 (disambiguation)*

← 37	
38	
39 →	
← 30 31 32 33 34 35 36 37 38 39 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-eight
Ordinal	38 (thirty-eighth)
Factorization	2 · 19
Divisors	1, 2, 19, 38
Roman numeral	XXXVIII
Binary	100110₂
Octal	46₈
Duodecimal	32₁₂
Hexadecimal	26₁₆

38 (thirty-eight) is the natural number following 37 and preceding 39.

In mathematics

38 is the 11th distinct semiprime and the 7th in the $\{2,q\}$ family. It is the initial member of the third distinct semiprime pair (38, 39).

38 has an aliquot sum of 22 which is itself a distinct semiprime. In fact 38 is the first number to be at the head of a chain of four distinct semiprimes in its 8 member aliquot sequence (38, 22, 14, 10, 8, 7, 1, 0). 38 is the 8th member of the 7-aliquot tree.

$38! - 1$ yields 523022617466601111760007224100074291199999999, which is a factorial prime.

There is no answer to the equation $\varphi(x) = 38$, making 38 a nontotient.^[1]

38 is the sum of the squares of the first three primes.

37 and 38 are the first pair of consecutive positive integers not divisible by any of their digits.

38 is the largest even number which cannot be written as the sum of two odd composite numbers.

There are only two normal magic hexagons, order 1 (which is trivial) and order 3. The sum of each row of an order 3 magic hexagon is 38.^[2]

In science

- The atomic number of strontium

Astronomy

- The Messier object M38, a magnitude 7.0 open cluster in the constellation Auriga
- The Saros number of
 - the solar eclipse series which began on -1729 June 26 and ended on -431 August 14. The duration of Saros series 38 was 1298.1 years, and it contained 73 solar eclipses.
 - the lunar eclipse series which began on -1408 April 16 and ended on -111 June 3. The duration of Saros series 38 was 1298.1 years, and it contained 73 lunar eclipses.
- The New General Catalogue object NGC 38, a spiral galaxy in the constellation Pisces
- The 38th parallel north is pre-Korean War boundary between North Korea and South Korea.

In mythology

- The number 38 was especially prominent in Norse mythology. The number was said to represent unnatural bravery, characteristic of the legendary heroes of Norse sagas. Most legendary sagas were divided into 38 chapters, and the number often recurred throughout stories, with the heroes combating giants or other beasts in groups of 38. The number came to be adopted by the Hardrada clan, and was displayed on their crest in the form of 38 ravens set around 38 outward-facing arrows.
- The number was also significant in Egyptian mythology, as it was the characteristic number of Anubis, the jackal-headed god of death and mummification. Egyptian pharaohs were often buried with 38 statues of cat guardians, and their sarcophagi were adorned with 38 ankhs.

In other fields

Thirty-eight is also:

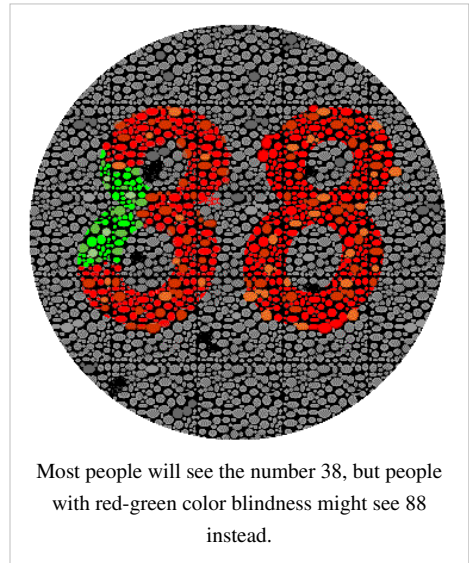
- The number of slots on an American Roulette wheel (0, 00, and 1 through 36; European roulette does not use the 00 slot and has only 37 slots)
- The number of games that each team in the current English Premiership, the top division in English Association Football, plays in a season
- Bill C-38 legalized same-sex marriage in Canada
- The number of years it took the Israelites to travel from Kadesh Barnea to the Zered valley in Deuteronomy.
- A "38" is often the name for a snub nose .38 caliber revolver
- Name of the southern rock band 38 Special
- The 38 class is the most famous class of steam locomotive used in New South Wales
- The number of the French department Isère
- There are 38 surviving plays written by William Shakespeare.
- The gate of the sci-fi TV series Stargate SG-1 can stay open a maximum of 38 minutes.
- In Taiwan, "38" is slang for stupid/idiot.

Filejena==Historical years== **38 A.D.**, 38 B.C., 1938, 2038, etc.

References

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- [2] Higgins, Peter (2008). *Number Story: From Counting to Cryptography*. New York: Copernicus. p. 53. ISBN 978-1-84800-000-1.

pnb:38



Most people will see the number 38, but people with red-green color blindness might see 88 instead.

39 (number)

← 38	
39	
40 →	
← 30 31 32 33 34 35 36 37 38 39 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	thirty-nine
Ordinal	39 (thirty-ninth)
Factorization	$3 \cdot 13$
Divisors	1, 3, 13, 39
Roman numeral	XXXIX
Binary	100111_2
Octal	47_8
Duodecimal	33_{12}
Hexadecimal	27_{16}

39 (thirty-nine) is the natural number following 38 and preceding 40.

In mathematics

Thirty-nine is the sum of five consecutive primes ($3 + 5 + 7 + 11 + 13$) and the sum of the first three powers of 3 ($3^1 + 3^2 + 3^3$). Given 39, the Mertens function returns 0.

39 is the smallest natural number which has three partitions into three parts which all give the same product when multiplied: {25, 8, 6}, {24, 10, 5}, {20, 15, 4}.

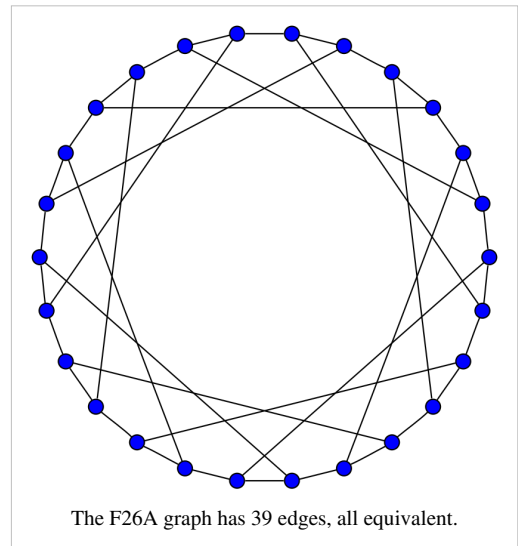
39 is the 12th distinct semiprime and the 4th in the {3,q} family. It is the last member of the third distinct biprime pair (38,39).

39 has an aliquot sum of 17 which is itself a prime. 39 is the 4th member of the 17-aliquot tree

The thirteenth Perrin number is 39, which comes after 17, 22, 29 (it is the sum of the first two mentioned).

Since the greatest prime factor of $39^2 + 1 = 1522$ is 761, which is obviously more than 39 twice, 39 is a Størmer number.

The F26A graph is a symmetric graph with 39 edges.



In science

- The atomic number of yttrium

Astronomy

- Messier object Open Cluster M39, a magnitude 5.5 open cluster in the constellation Cygnus
- The New General Catalogue object NGC 39, a spiral galaxy in the constellation Andromeda
- The Saros number of the
 - solar eclipse series which began on -1718 May 26 and ended on -438 July 3. The duration of Saros series 39 was 1280.1 years, and it contained 72 solar eclipses.
 - lunar eclipse series which began on -1380 March 26 and ended on -82 May 14. The duration of Saros series 39 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- The number of the 39 categories of activity prohibited on Shabbat according to Halakha
- The number of mentions of work or labor in the Torah
- The actual number of lashes given by the Sanhedrin to a person meted the punishment of 40 lashes
- The number of books in the Old Testament according to Protestant canon
- The number of statements on Anglican Church doctrine, Thirty-Nine Articles

In other fields

Arts and entertainment

- In the title of the John Buchan novel and subsequent films (one by Alfred Hitchcock), *The Thirty-Nine Steps*
- The age American comedian Jack Benny claimed to be for more than 40 years
- "39" is a song by The Cure on their album "Bloodflowers"
- "'39" is a track on Queen's album *A Night At the Opera*. If the tracks on Queen's original studio albums are numbered in sequential order starting with their first, "'39" does in fact fall in the thirty-ninth position
- The retired jersey number of former baseball player Roy Campanella
- The book series "The 39 Clues" revolves around 39 clues hidden around the world.
- *Glorious 39* is a 2009 drama film set at the beginning of World War II

History

- The number of signers to the United States Constitution, out of 55 members of the Philadelphia Convention delegates
- The traditional number of times citizens of Ancient Rome hit their slaves when beating them, referred to as "Forty save one"
- The duration, in nanoseconds, of the nuclear reaction in the largest nuclear explosion ever performed (Tsar bomb)
- The number of Scud missiles which Iraq fired at Israel during the Gulf War in 1991

Other

- The code for international direct-dialed phone calls to Italy
- I-39 is the designation for a US interstate highway from Normal, Illinois to Wausau, Wisconsin. I-39 is the 39th shortest of the primary "two digit" Interstates.
- Japanese Internet chat slang for "thank you" when written with numbers (3=san 9=kyu)
- Pier 39 in San Francisco
- The number of the French department Jura

At age 39


- Apollo 11 commander Neil Armstrong became the 1st person to set foot on the moon
- Charles Goodyear led the way to the effective use of rubber
- Jimmy Connors reached the U.S. Open semifinals
- Malcolm X was assassinated
- Martin Luther King Jr. was assassinated
- Amelia Earhart went missing; she was declared dead 2 years later in 1937

Historical years

39 A.D., 39 B.C., 1939, 2039, etc.

pnb:39

40 (number)

<p>← 39</p> <p style="text-align: right;">41 →</p> <p style="text-align: center;">40</p>	
<p>← 40 41 42 43 44 45 46 47 48 49 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	forty
Ordinal	40 (fortieth)
Numeral system	quadragesimal
Factorization	$2^3 \cdot 5$
Divisors	1, 2, 4, 5, 8, 10, 20, 40
Roman numeral	XL
Binary	101000_2
Octal	50_8
Duodecimal	34_{12}
Hexadecimal	28_{16}
Hebrew  (Mem)	

40 (forty) is the natural number following 39 and preceding 41.

Despite being related to the word "four" (4), 40 is spelled "forty", not "fourty". The reason is that etymologically (even in accents without the horse-hoarse merger), the words have different vowels, "forty" containing a contraction in the same way that "fifty" contains a contraction of "five". The letters of the word "forty" are in alphabetical order; this is the only number that has this linguistic property in English.

In mathematics

Forty is an octagonal number, and as the sum of the first four pentagonal numbers, it is a pentagonal pyramidal number. Adding up some subsets of its divisors (e.g., 1, 4, 5, 10 and 20) gives 40, hence 40 is a semiperfect number.

Given 40, the Mertens function returns 0. 40 is the smallest number n with exactly 9 solutions to the equation $\varphi(x) = n$.

Forty is the number of n -queens problem solutions for $n = 7$.

Since $40^2 + 1 = 1601$ is prime, so the greatest prime divisor of 1601 is itself and obviously more than 40 twice, 40 is a Størmer number.

40 is a repdigit in base 3 (1111) and a Harshad number in base 10.

In science

- The atomic number of zirconium.
- **Negative forty** is the temperature at which the Fahrenheit and Celsius scales correspond; that is, $-40^{\circ}\text{F} = -40^{\circ}\text{C}$. It is referred to as either "minus forty" or "forty below".

Astronomy

- The planet Venus forms a pentagram in the night sky every eight years with it returning to its original point every 40 years with a 40 day regression (some scholars believe that this ancient information was the basis for the number 40 becoming sacred to Jews, Christians, and Muslims).
- Messier object M40, a magnitude 9.0 double star in the constellation Ursa Major
- The New General Catalogue object ^[6]NGC 40, a magnitude 12.4 planetary nebula in the constellation Cepheus
- The Saros number of the
 - solar eclipse series which began on -1653 May 28 and ended on -373 July 4. The duration of Saros series 40 was 1280.1 years, and it contained 72 solar eclipses.
 - lunar eclipse series which began on -1387 February 12 and ended on -71 April 12. The duration of Saros series 40 was 1316.2 years, and it contained 74 lunar eclipses.

In religion

The number 40 is significant in Jewish, Christian, Islamic, and other Middle Eastern traditions. It can represent an estimate, or many of something.

Judaism

- Rain fell for "forty days and forty nights" during the flood
- Spies explored the land of Israel for "forty days." (Numbers 13)
- The Hebrew people lived in the Sinai desert for "forty years". This period of years represents the time it takes for a new generation to arise.
- Moses' life is divided into three 40-year segments, separated by his fleeing from Egypt, and his return to lead his people out.
- Several Jewish leaders and kings are said to have ruled for "forty years", that is, a generation. (Examples: Eli, Saul, David, Solomon.)
- Moses spent three consecutive periods of "forty days and forty nights" on Mount Sinai:
 1. He went up on the seventh day of Sivan, after God gave the Torah to the Jewish people, in order to learn the Torah from God, and came down on the seventeenth day of Tammuz, when he saw the Jews worshiping the Golden Calf and broke the tablets
 2. He went up on the eighteenth day of Tammuz to beg forgiveness for the people's sin and came down without God's atonement on the twenty-ninth day of Av
 3. He went up on the first day of Elul and came down on the tenth day of Tishrei, the first Yom Kippur, with God's atonement
- A mikvah consists of 40 *se'ah* (approximately 200 gallons) of water
- 40 lashes is one of the punishments meted out by the Sanhedrin, though in actual practice only 39 lashes were administered.
- One of the prerequisites for a man to study Kabbalah is that he be forty years old.

Christianity

- Jesus was presented at the Temple in Jerusalem forty days after his birth.
- Before the temptation of Christ, Jesus fasted "Forty days and forty nights" in the Judean desert.
- Forty days was the period from the resurrection of Jesus to the ascension of Jesus.
- In modern Christian practice, Lent consists of the 40 days preceding Easter. In much of Western Christianity Sundays are excluded from the count; in Eastern Christianity Sundays are included.

Islam

- Masih ad-Dajjal roams around the Earth in forty days, a period of time that can be as many as forty months, forty years, and so on.
- Khadijah was forty years old when she married Muhammad.
- Muhammad was forty years old when he first received the revelation delivered by the archangel Gabriel.
- The Quran says that a person is only fully grown when they reach the age of 40.

Yazidism

- In the Yazidi faith, The Chermera temple (meaning "40 Men" in the Yazidi dialect) is so old that no one remembers how it came to have that name but it is believed to derive from the burial of 40 men on the mountaintop site.

Russian folklore

- Some Russians believe that ghosts of the dead linger at the site of their death for forty days.

Hinduism

- In Hinduism, some popular religious prayers consist of forty shlokas or dohas (couplets, stanzas). The most common being the Hanuman Chalisa (*chaalis* is the Hindi term for 40).

In other fields

Forty is also:

- To understand a people, you must live among them for 40 days. *~Arabic proverb* ^[1] ^[2]
- the caliber of the bullet in the .40 S&W handgun cartridge
- in the Saying "Life begins at forty"
- in the expression "forty winks", meaning a short sleep
- the distance run in the 40 yard dash in American football scouting
- A song by Dave Matthews Band
- the number of years of marriage as the ruby wedding anniversary
- the code for direct dial international phone calls to Romania
- the number in the designation of:
 - Interstate 40, a freeway that runs from California to North Carolina
 - U.S. Route 40, the 2285-mile (3677 km) highway that runs from Baltimore, Maryland, to Park City, Utah, a portion of which follows the National Road
 - European route E40 from Calais to Ridder
 - the A40 and M40, important highways in the UK. The A40 is a trunk road in England and Wales, connecting London to Fishguard. The M40 motorway is the second motorway in the British transport network to connect London to Birmingham
- "40", a 1983 song by U2 from their album *War*

- "40" is the title of a song by Franz Ferdinand
 - The band Crush 40 The radio program American Top 40 The radio program Rick Dees' Weekly Top 40
 - in the title of the Food Network show *\$40 a Day*
 - in the name of WD-40, a spray lubricant
 - in the name of the food additive FD & C Red Dye #40, commonly known as Red 40;
 - the 40 ounce (1.14 litre) size used for liquor, a term commonly referred to in Canada
 - the number of questions asked in the theory road test in the Republic of Ireland
 - the number of thieves in Ali Baba and the Forty Thieves, from Thousand and One Nights (both the numbers 40 and 1001 are more likely to mean "many" than to indicate a specific number)
 - the customary number of hours in a regular workweek in some Western countries. The song, "40 Hour Week (For a Livin')" by Alabama (as well as their album, *40-Hour Week*), takes its name from the standard workweek length.
 - many distilled alcoholic beverages (such as vodka) contain approximately 40 percent alcohol by volume
 - the jersey number of Pat Tillman, which was retired by the Arizona Cardinals
 - the jersey number of Gayle Sayers, which was retired by the Chicago Bears
 - the jersey number of Mike Alstott, former Tampa Bay Buccaneers Fullback who was ranked #10 on NFL Network's "Top Ten Power Backs".
 - the number of wires in a Parallel ATA-cable
 - Form 1040 (referred to as a "ten-forty") is a standard Internal Revenue Service form used to file for federal taxes in the United States
 - UB40 is a form for those claiming unemployment benefits in the United Kingdom. The band UB40 was named after this form;
 - The Rolling Stones CD *Forty Licks*;
 - the number of positions on a number of radio countdown programs, most notably American Top 40 and American Country Countdown.
 - for *The Early Show* segment "Chef on a Shoestring", chefs are given a \$40 budget. Most chefs bring it in under. (For holidays they are given \$80).
 - the M40 (field protective mask), a United States military gas mask
 - generally considered the number of points that a Premier League team needs to avoid relegation.
 - forty is the number of weeks for an average term of pregnancy, counting from the woman's last menstrual period.
 - The age for people is middle age in some cultures.
 - The number of the French department Landes
 - In tennis, the number 40 represents the third point gained in a game. A score of 40-40 (three points each) is called "deuce", at which time a player must score two consecutive points to win the game.
 - Ronald Reagan was the 40th president of the United States;
 - In the song "Billie Jean" by Michael Jackson, the lyrics state that "For forty days and for forty nights / the law was on her side" in reference to the Genesis story of Noah.
 - The nickname of hip-hop producer, Noah "40" Shebib.
-

Historical years

40 A.D., 40 B.C., 1940, 2040, etc.

See also

- 40 acres and a mule

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- [2] "40 Days & 1001 Nights - *One Woman's Dance Through Life in the Islamic World*" (<http://www.40daysand1001nights.com>). .

pnb:40

41 (number)

<p>← 40</p> <p style="text-align: right;">42 →</p> <p style="text-align: center;">41</p>	
<p>← 40 41 42 43 44 45 46 47 48 49 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	forty-one
Ordinal	41 (forty-first)
Factorization	prime
Divisors	1, 41
Roman numeral	XLI
Binary	101001 ₂
Octal	51 ₈
Duodecimal	35 ₁₂
Hexadecimal	29 ₁₆

41 (forty-one) is the natural number following 40 and preceding 42.

In mathematics

Forty-one is the 13th smallest prime number. The next is forty-three, with which it comprises a twin prime. It is also the sum of the first six prime numbers ($2 + 3 + 5 + 7 + 11 + 13$), and the sum of three primes ($11 + 13 + 17$).

Forty-one is also the 12th supersingular prime, a Sophie Germain prime and a Newman-Shanks-Williams prime. 41 is the smallest Sophie Germain prime to start a Cunningham chain of the first kind of three terms, {41, 83, 167}. It is an Eisenstein prime, with no imaginary part and real part of the form $3n - 1$. 41 is a Proth prime as it is $5 \times 2^3 + 1$.

The number figures in the polynomial $f(n) = n^2 + n + 41$, which yields primes for $-40 \leq n < 40$.

Forty-one is the sum of two squares, $4^2 + 5^2$. Adding up the sums of divisors for 1 through 7 yields 41.

It is a centered square number.

In science

- The atomic number of niobium.

In astronomy

- Messier object M41, a magnitude 5.0 open cluster in the constellation Canis Major.
 - The New General Catalogue object NGC 41, a spiral galaxy in the constellation Pegasus.
 - The Saros number of the solar eclipse series which began on May 28, 1588 BC and ended on July 5, 308 BC. The duration of Saros series 41 was 1280.1 years, and it contained 72 solar eclipses.
-

- The Saros number of the lunar eclipse series which began on March 18, 1268 BC and ended on May 6 AD 30. The duration of Saros series 41 was 1298.1 years, and it contained 73 lunar eclipses.

In music

- The number of the last symphony of Wolfgang Amadeus Mozart (note: '37' is not in the canon).
- "#41", a song by Dave Matthews Band.
- The band Sum 41.
- The number of times Paul McCartney sings the phrase "Let It Be" in the Beatles #1 hit Let It Be.
- American Skin (41 Shots) is a song by Bruce Springsteen about an immigrant, murder victim who was shot 41 times by the NYPD

In literature

- A number frequently referred to in Arthur C. Clarke's series of books known as the Rama Cycle. Michael O'Toole's password for the Trinity operation is heavily encoded with the number 41.

In film

- The name of an independent documentary about Nicholas O'Neill, the youngest victim of the Station nightclub fire.
- Charlton Heston's designation as a galley slave in the film *Ben-Hur*.
- The code number given to Tetsuo Shima by scientists in the manga and 1988 film *Akira*.
- Jonathan Pryce's destination level for his apartment in Terry Gilliam's *Brazil*.
- Billy Cole's jersey number in the Tony Scott film *The Last Boy Scout*.
- In the feature film *The Matrix*, Morpheus is aggressively questioned in the 41st floor of the government building, in reference to the murder of Amadou Diallo.^[1]
- The victim number that appears on Dr. Lucy Lynskey's forehead in the Peter Jackson film *The Frighteners*.
- The precinct number that appears on the NYC police car in the film *Ghostbusters* during the earthquake moment of the film's climax.
- The district number where the "zombie virus" reappears in the film *Doomsday*.
- The distance in kilometers when Ripcord and Duke from the 2009 film *G.I. Joe: The Rise of Cobra* realize that their escort mission is in jeopardy.
- The restricted penthouse level of Lady Tanaka's Yakuza hideout in *The Punisher (1989 film)*.
- In the 1959 *Alfred Hitchcock* film *North by Northwest*, *Cary Grant* is attacked by a crop-dusting airplane at Prairie Corners on Highway 41.

In sports

- The retired number of the back of the uniform worn by Hall of Famers Tom Seaver of the New York Mets and by Eddie Mathews of the Atlanta Braves.
- Worn by and retired for Brian Piccolo, running back for the Chicago Bears. Died June 16, 1970 of embryonal cell carcinoma.
- The race number worn by Sir Roger Bannister when he broke the mythical 4-minute mile barrier in 1954.^[2]

In religion

- In Christianity, 41 represents the 39 lashes Jesus received before the crucifixion, plus one for the spear in his side, plus one for the crown of thorns.

In other fields

- The model number of the HP-41C/CV/CX.
- The international direct dialing (IDD) code for Switzerland.
- C-41 process is the film developing process for 35mm color negative film.
- George W. Bush's nickname for his father, George H. W. Bush, the 41st President of the United States.
- Montana is the 41st state of the United States.
- In the 1994 arcade game *Daytona USA*, the player racing team, Team Hornet, has a race number of 41. It is also continued in the 1998 arcade game *Daytona USA 2*, where it is applied to three more player cars. The number 41 does not appear on the player cars on linked cabinets for both games.
- In Mexico "cuarenta y uno" (41) is slang referring to a homosexual. This is due to the 1901 arrest of 41 homosexuals at a hotel in Mexico City during the government of Porfirio Díaz (1876-1911). See: Dance of the Forty-One (Reference 1 ^[3]) (Reference 2 ^[4])
- Municipal Okrug #41, name of Konstantinovskoye Municipal Okrug of Krasnoselsky District of Saint Petersburg, Russia, before 2008
- The number of the French department Loir-et-Cher.
- The number of seats in the U.S. Senate any one party needs to allow for the use of a Filibuster.

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- [3] <http://www.chavodel8.com/mexicanismos/numero-41.php>
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Historical years

41 A.D., 41 B.C., 1941, 2041, etc.

pnb:41

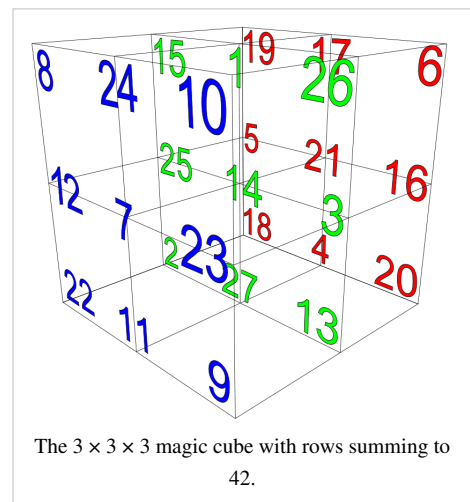
42 (number)

← 41	
42	
43 →	
← 40 41 42 43 44 45 46 47 48 49 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	forty-two
Ordinal	42 (forty-second)
Factorization	$2 \cdot 3 \cdot 7$
Divisors	1, 2, 3, 6, 7, 14, 21, 42
Roman numeral	XLII
Unicode symbol(s)	*
Binary	101010_2
Octal	52_8
Duodecimal	36_{12}
Hexadecimal	$2A_{16}$

42 (forty-two) is the natural number following 41 and preceding 43. The number has received considerable attention in popular culture because of its appearance in *The Hitchhiker's Guide to the Galaxy*, as the "Answer to the Ultimate Question of Life, the Universe, and Everything".

In mathematics

- Given 27 same-size cubes whose nominal values progress from 1 to 27, a $3 \times 3 \times 3$ magic cube can be constructed such that every row, column, and corridor, and every diagonal passing through the center, comprises 3 cubes whose sum of values is 42.
- Forty-two is a pronic number and an abundant number; its prime factorization $2 \cdot 3 \cdot 7$ makes it the second sphenic number and also the second of the form $\{ 2 \cdot 3 \cdot r \}$. As with all sphenic numbers of this form, the aliquot sum is abundant by 12. 42 is also the second sphenic number to be bracketed by twin primes; 30 is also a pronic number and also rests between two primes. 42 has a 14 member aliquot sequence 42, 54, 66, 78, 90, 144, 259, 45, 33, 15, 9, 4, 3, 1, 0 and is itself part of the aliquot sequence commencing with the first sphenic number 30. Further, 42 is the 10th member of the 3-aliquot tree.
- 42 is the product of the first three terms of Sylvester's sequence; like the first five such numbers it is also a primary pseudoperfect number.
- It is the sum of the totient function for the first eleven integers.



- It is a Catalan number. Consequently; 42 is the number of noncrossing partitions of a set of five elements, the number of triangulations of a heptagon, the number of rooted ordered binary trees with six leaves, the number of ways in which five pairs of nested parentheses can be arranged, etc.
- It is the reciprocal of the sixth Bernoulli number.
- It is conjectured to be the scaling factor in the leading order term of the "sixth moment of the Riemann zeta function". In particular, Conrey & Ghosh have conjectured

$$\text{where the infinite product is over all prime numbers, } p.$$
^{[1] [2]}
- It is the third pentadecagonal number. It is a meandric number and an open meandric number.
- 42 is a Størmer number.
- 42 is a perfect score on the USA Math Olympiad (USAMO)^[3] and International Mathematical Olympiad (IMO).^[4]
- In base 10, this number is a Harshad number and a self number, while it is a repdigit in base 4 (as 222).

In science

- The atomic number of molybdenum.
- The angle in degrees for which a rainbow appears or the critical angle.
- In 1966, mathematician Paul Cooper theorized that the fastest, most efficient way to travel across continents would be to bore a straight hollow tube directly through the Earth, connecting a set of antipodes, evacuate it (remove the air), and then just fall through. The first half of the journey consists of free-fall acceleration, while the second half consists of an exactly equal deceleration. The time for such a journey works out to be 42 minutes. Remarkably, even if the tube does not pass through the exact center of the Earth, the time for a journey powered entirely by gravity always works out to be 42 minutes, as long as the tube remains friction-free, as while gravity's force would be lessened, so would the distance traveled at an equal rate.^{[5] [6]} (The same idea was proposed, without calculation, by Lewis Carroll in 1893 in *Sylvie and Bruno Concluded*.^[7])

In technology

- Magic numbers used by programmers:
 - The glyph, or character, corresponding to the number 42 in the ASCII character set, is *, the asterisk, commonly known as the wildcard character.
 - In the TIFF image file format, the second 16-bit word of every file is 42, which is used together with the first word to indicate byte order.
 - In the reiser4 file system, 42 is the inode number of the root directory.
 - In the military IRIG 106 Chapter 10^[8] data recording standard, the hex value 0x464F52545974776F (ASCII "FORTYtwo") is used as a magic number to identify directory blocks.
- The GNU C Library, a set of standard routines available for use in computer programming, contains a function—**memfrob()**—which performs an XOR combination of a given variable and the binary pattern 00101010 (42) as an XOR cipher.
- 42 is the result given by the web search engines Wolfram Alpha, Google and Microsoft's Bing when the query "the answer to life the universe and everything" is entered as a search.
- One of Advanced Micro Devices' Overlocking CPU was named Phenom 42, with the number being partially from the book *The Hitchhikers Guide to the Galaxy*.
- Tiling a plane using regular hexagons, which is honeycomb in appearance, is approximated in a topological sense to an accuracy of better than 1% using a stretcher bond brick pattern with bricks of 42 squares (6 by 7).^[9]

In astronomy

- Messier object M42, a magnitude 5.0 diffuse nebula in the constellation Orion, also known as the Orion Nebula
- The New General Catalogue object NGC 42, a spiral galaxy in the constellation Pegasus
- In January 2004, asteroid 2001 DA42 was given the permanent name 25924 Douglasadams, for the author Douglas Adams who popularized the number 42 and died in 2001. Brian G. Marsden, the director of the Minor Planet Center and the secretary for the naming committee, remarked that, with even his initials in the provisional designation, "This was sort of made for him, wasn't it?"

In religion

- There are 42 principles of Ma'at, the Ancient Egyptian personification of physical and moral law, order, and truth. In the judgement scene described in the Egyptian and the Book of the Coming/Going Forth by Day (the Book of the Dead (which evolved from the Coffin Texts and the Pyramid Texts)), there are 42 gods and goddesses of Egypt, personifying the principles of Ma'at, who ask questions of the departed, while Thoth records the answers, and the deceased's heart is weighed against the feather of Truth (Ma'at). These 42 correspond to the 42 Nomes (Governmental Units) of Egypt. If the departed successfully answers all 42, s/he becomes an Osiris.
- 42 is the number with which God creates the Universe in Kabbalistic tradition. In Kabbalah, the most significant name is that of the En Sof (also known as "Ein Sof", "Infinite" or "Endless"), who is above the Sefirot (sometimes spelled "Sephivot").^[10] The Forty-Two-Lettered Name contains four combined names which are spelled in Hebrew letters (spelled in letters = 42 letters), which is the name of Azilut (or "Atziluth" "Emanation"). While there are obvious links between the Forty-Two Lettered Name of the Babylonian Talmud (see further up this page) and the Kabbalah's Forty-Two Lettered Name, they are probably not identical because of the Kabbalah's emphasis on numbers. The Kabbalah also contains a Forty-Five Lettered Name and a Seventy-Two Lettered Name.
- The number 42 appears in various contexts in Christianity. There are 42 generations (names) in the Gospel of Matthew's version of the Genealogy of Jesus; it is prophesied that for 42 months the Beast will hold dominion over the Earth (Revelation 13:5); 42 men of Beth-azmaveth were counted in the census of men of Israel upon return from exile (Ezra 2:24); God sent bears to maul 42 of the youths who mocked Elisha for his baldness (2 Kings 2:23), etc.
- In Judaism, the number (in the *Babylonian Talmud*, compiled 375 AD to 499 AD) of the "Forty-Two Lettered Name" ascribed to God. Rab (or Rabhs), a 3rd century source in the Talmud stated "The Forty-Two Lettered Name is entrusted only to him who is pious, meek, middle-aged, free from bad temper, sober, and not insistent on his rights". [Source: *Talmud Kidduschin* 71a, Translated by Rabbi Dr. I. Epstein]. Maimonides felt that the original Talmudic Forty-Two Lettered Name was perhaps composed of several combined divine names [Maimonides "Moreh"]. The apparently unpronounceable Tetragrammaton provides the backdrop from the Twelve-Lettered Name and the Forty-Two Lettered Name of the Talmud.
- In Western Hermetic sphere work 42 is the sum of the values of the 'true' spheres, 3,4,5,6,7,8 & 9 each of which represent one aspect of the body of God through which we observe the world. 1 and 2 are considered modalities of existence and 10 is the completion we see from our own sphere, 11. The sum of the squares of each of these numbers make 216, or 6 x 6 x 6, the number of the beast, which is also the number of the names of God the Jews had to say once a year in the holy of holies to assure blessings from on high. The 'beast' is the perfect sphere, represented in 3 dimensions by 3 bounding circles, each with 6 radii, hence 666 being the number of the beast and directly being linked to 216 and 42. This is the foundation of Western Hermetic sphere work and is echoed in Pythagoreanism.

In popular culture

In *The Hitchhiker's Guide to the Galaxy*

The number 42 is in the novel *The Hitchhiker's Guide to the Galaxy* by Douglas Adams. The Answer to the Ultimate Question of Life, the Universe, and Everything is calculated by an enormous supercomputer over a period of 7.5 million years to be 42. Unfortunately no one knows what the question is. According to the novel *Mostly Harmless*, 42 is the street address of Stavromula Beta. In 1994, Adams created the *42 Puzzle*, a game based on the number 42.

In the works of Lewis Carroll

Lewis Carroll^[11] made repeated use of this number in his writings.^[12] (Likewise, Adams named the episodes of the original radio series of *The Hitchhiker's Guide to the Galaxy* "fits", the word Carroll used to name the chapters of *The Hunting of the Snark*).

Examples of Carroll's use of 42:

- Alice's Adventures in Wonderland has 42 illustrations.
- Rule Forty-two in Alice's Adventures in Wonderland ("All persons more than a mile high to leave the court".)
- Rule 42 of the Code in the preface to *The Hunting of the Snark* ("No one shall speak to the Man at the Helm.")
- In "fit the first" of *The Hunting of the Snark* the Baker had "forty-two boxes, all carefully packed, With his name painted clearly on each".
- Alice's recital of her "four times table" while falling down the rabbit hole makes sense if the first calculation is made in base 18, the second in base 21, and so on, increasing the base by three each time. Continuing on this pattern 4×12 would equal 19 in base 39, but 4×13 calculated in base 42, rather than providing the expected 20 would yield 1A. Hence, as Alice cries, "I shall never get to twenty at that rate!"
- The Red Queen announces her age as "one hundred and one, five years and a day", which - if the best possible date is assumed for the action of *Through the Looking-Glass* - gives a total of 37,044 days. With the further (textually unjustified) assumption that both Queens were born on the same day their combined age becomes 74,088 days, which is $42 \times 42 \times 42$. Some commentators have asserted that this is deliberate on Carroll's part.^[13]

In music

- Level 42 is an English pop/rock band.
- "42" is one of the tracks on Coldplay's 2008 album *Viva la Vida or Death and All His Friends*.
- Strigaskór nr. 42 is an Icelandic band.
- "42" is the title of a song by Philadelphia based jam/electronica band The Disco Biscuits.
- "Forty-Two" is the title of a song from The Afters' 2008 album *Never Going Back To OK*.

In television and film

- Fox Mulder, one of the main characters in *The X-Files* lived in Apartment 42 at 2630 Hegal Place, Alexandria, Virginia.^[14]
- *The Kumars at No. 42* television series. In 2003, Sanjeev Bhaskar hosted a BBC show nominating *The Hitchhiker's Guide to the Galaxy* as *Britain's Best Loved Book*.
- 42 is one of *The Numbers* - 4, 8, 15, 16, 23, and 42 - featured in *Lost*. It is also the number tied to the character "Kwon".
- A made for TV movie *42: Forty Two Up* - an installment in a series of documentaries wherein the director revisits the same group of British-born individuals every 7 years.^[15]
- 42 is an episode of *Doctor Who*, set in real time lasting approximately 42 minutes.
- In the *Doctor Who* episode *Voyage of the Damned*, the Tenth Doctor attempts to control a rogue host robot by randomly shouting numbers, including of course, 42.

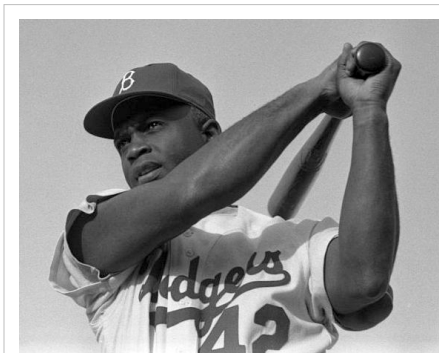
- In an episode of the animated show, *Phineas and Ferb* called "The Fast & the Phineas", the boys turn their mother's car into a racecar. The number of their racecar is 42.
- 42 is the name of Buzz Lightyear's space ship from Pixar's animated science fiction series Buzz Lightyear of Star Command.
- In Monty Python's film *And Now for Something Completely Different*, the famous "How Not to be Seen" sketch is presented as "H.M. Government Public Service film No. 42".
- In *A Clockwork Orange* Alex browses through records in a record store and we see a record of the, at this time fictional, band Level 42.
- In an episode of "Stargate Atlantis" it is revealed that Rodney McKay's password is made up of the birth years of several notable minds throughout history, and ends with the number 42. The character Jack Sheppard reveals that the number is the ultimate answer to life, the universe and everything, to the confusion of his alien companion.
- In an episode of "Stargate Atlantis," Season 4 - Doppelganger; Dr. McKay asks Col. Sheppard "Look, do you have any idea how many Gate addresses there are in the Ancient database that have no accompanying description?" to which Sheppard answers "forty two".
- In the episode "Human" from Stargate Universe, the key to a code appears to be the number 46. Upon seeing this, Daniel Jackson exclaims: "Well, it's not the ultimate answer to life, the universe and everything. That's forty two. Hitch Hikers Guide to the Galaxy."
- In "Finding Nemo" the address of the dentist's office is recited many times by Dory, it is P. Sherman, 42 Wallaby Way, Sydney
- In "The Mentalist", Season 2, Episode 21, titled "18-5-4", a fictional machine called the Universal Code Breaker or 'Universal Hack' , is hidden inside locker number 42.
- In "Amelie", the number appears on the bottom of Mr. Collignon's shoe.

In video games

- 42 Entertainment is the company responsible for several alternate reality games, including *I Love Bees*, *Year Zero* and *Why So Serious*.
- In *Spore*, reaching the center of the galaxy yields a powerful item known as the "Staff of Life" which has a limited 42 uses. It also grants the player an achievement titled "42".
- In *Fable II*, the last in a series of ancient artifacts the player can find says "Now just think of the number 42."
- 101010 (42 in Binary) is an open-source Java game.
- In the Champions Online MMORPG it states during a loading screen "your lucky numbers are 2, 5 and 42"
- In Valve Corporation's *Left 4 Dead 2*, 42 is the number of Moustachios that must be shot in the Dark Carnival campaign's Whack-a-Mole style mini-game in order to unlock the STACH WACKER achievement.
- In *Destroy All Humans!* you go into a parody of Area 51 called Area 42.
- In *Lego Batman*, *Lego Indiana Jones*, and the *Lego Star Wars* games, the maximum amount of studs you can have is 4,200,000,000.
- In *The Conduit* one of the conspiracy messages reads XLII or 42 in roman numerals
- In *Mucky Foot Software's 'Startopia'*, the AI Computer advisor is quoted as saying '42. Interesting number don't you think? Although I suppose its importance is lost on you carbon based lifeforms'

In sports

- The jersey number of Jackie Robinson, which is the only number retired by all Major League Baseball teams. Although the number was retired in 1997, the last professional baseball player to wear number 42, Mariano Rivera of the New York Yankees, is currently still using it.
- The jersey number of basketball Hall of Famer and one of the 50 Greatest Players in NBA History James Worthy, small forward for the Los Angeles Lakers, who retired his jersey number in 1995.
- The jersey number of football Hall of Famer, Ronnie Lott, safety for the San Francisco 49ers, who retired his jersey number in 2003.
- The jersey number of Pat Tillman, which was retired on November 13, 2004 by Arizona State University.
- The number of laws of cricket.
- The number on Lee Petty's racing car when he raced in NASCAR.^[16]
- The number of Juan Pablo Montoya's race car in the NASCAR Sprint Cup Series.



Jackie Robinson in his now-retired number 42 jersey.

In other fields

- There are 42 US gallons in a barrel of oil.
- Tower 42 is a skyscraper in the City of London, formerly known as the NatWest Tower.
- The name of a Texan trick-taking game played with dominoes (see 42 (dominoes)).
- The number of spots (or pips, circular patches or pits) on a pair of standard six-sided dice.
- In New York City, 42nd Street is a main and very popular two-way thoroughfare. Landmarks on it include the Chrysler Building, Grand Central Terminal, the main branch of the New York Public Library, and Times Square. The New York City street is also the setting for a movie by the same name (which also gave fame to its eponymous title song), and which later inspired a musical adaptation, *42nd Street*.
- Popular gadget magazine *Stuff* did not produce an issue numbered 42, in honor of *The Hitchhiker's Guide to the Galaxy*, instead, the 41st issue was followed by the 43rd.
- The designation within ISO/IEC JTC1/SC7 of its working group on Architecture was chosen to be "WG 42" because architecture is the answer to "Life, the Universe and Everything", skipping over designations 26 through 41.

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- [5] "To Everywhere in 42 Minutes" (<http://www.time.com/time/magazine/article/0,9171,842469,00.html>). *Time*. February 11, 1966. . Retrieved 2008-05-18.
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pnb:42

43 (number)

<p>← 42</p> <p style="text-align: right;">44 →</p> <p style="text-align: center;">43</p>	
<p>← 40 41 42 43 44 45 46 47 48 49 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	forty-three
Ordinal	43 (forty-third)
Factorization	prime
Divisors	1, 43
Roman numeral	XLIII
Binary	101011 ₂
Octal	53 ₈
Duodecimal	37 ₁₂
Hexadecimal	2B ₁₆

43 (forty-three) is the natural number following 42 and preceding 44.

In mathematics

Forty-three is the 14th smallest prime number. The previous is forty-one, with which it comprises a twin prime, and the next is forty-seven. 43 is the smallest prime that is not a Chen prime. It is also the third Wagstaff prime.

43 is the fourth term of Sylvester's sequence, one more than the product of the previous terms ($2 \times 3 \times 7$).

43 is a centered heptagonal number.

Let $a(0) = a(1) = 1$, and thenceforth $a(n) = (a(0)^2 + a(1)^2 + \dots + a(n-1)^2) / (n-1)$. This sequence continues 1 1 2 3 5 10 28 154... (sequence A003504 ^[1] in OEIS). Amazingly, $a(43)$ is the first term of this sequence that is not an integer.

43 is a Heegner number.

43 is a repdigit in base 6 (111).

43 is the largest natural number that is not an (original) McNugget number.

4	15	17	7
5	19	13	6
20	9	2	12
14	0	11	18

This is the smallest number expressible as the sum of 2, 3, 4, or 5 different primes:

- $43 = 41 + 2$
- $43 = 11 + 13 + 19$
- $43 = 2 + 11 + 13 + 17$
- $43 = 3 + 5 + 7 + 11 + 17$.

The date magic square at right illustrates the magic constant as the sum of four primes:

When taking the first six terms of the Taylor series for computing e , one obtains

$$\sum_{i=0}^5 \frac{1}{i!} = \frac{163}{60} = 2 + \frac{43}{60},$$

which is also five minus the fifth harmonic number.

43 is also $42 + 1$, $4+3 = 7$, $40 + 3$, $6 \times 7 + 1$, $13 + 3 \times 10$, $7^2 - 6$, $3 \times 7 + 13 = 34 + 3^2$, $13 \times 3 + 6$, $10^2 - 8^2 + 3^2 - 2$ and $3^3 + 2^4$. These attributes are perhaps coincidental.

In science

- The chemical element with the atomic number 43 is technetium. It has the lowest atomic number of any element that does not possess stable isotopes.

Astronomy

- Messier object M43, a magnitude 7.0 H II region in the constellation of Orion, a part of the Orion Nebula, and also sometimes known as *de Mairan's Nebula*
- The New General Catalogue object ^[6] NGC 43, a barred spiral galaxy in the constellation Andromeda
- The Saros number ^[2] of the solar eclipse series which began on April 29, 1513 BC and ended on June 5, 233 BC . The duration of Saros series 43 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on August 27, 1482 BC and ended on March 15, 70. The duration of Saros series 43 was 1550.5 years, and it contained 87 lunar eclipses.

In sports

In the US's National Football League, the number 43 was worn by Jim Norton of the Tennessee (Formerly the Houston Oilers). The Titans have retired the number. Currently, both Troy Polamalu, of the Pittsburgh Steelers, and Darren Sproles, of the San Diego Chargers, are notable players who wear number 43.

In NASCAR:

- The number for Richard Petty's race car when he won his 7 Winston Cup Championships. He also won 200 races in his career, 95% of them in the famous #43.
- The maximum number of cars participating in a NASCAR race.
- Legendary driver Dale Earnhardt, Sr. died in a last-lap crash during the 43rd running of the Daytona 500 in 2001.

The number was also worn by Dennis Eckersley of the Oakland Athletics (MLB), and has been retired.

Films

In a film by Pixar called *Cars*, the champion racecar in the film, Strip "The King" Weathers is racecar number 43 based on Richard Petty's car. Petty also provides the voice of "The King" in the film.

In other fields

Forty-three is:

- The designation of Interstate 43, a freeway in Wisconsin.
- The code for direct dial international phone calls to Austria.
- "43", a song by Level 42 on the album *Level 42*
- "43," a song by Mushroomhead on the album "Mushroomhead"
- George W. Bush, 43rd president of the United States
- U.S.S. Coral Sea CV-43 (Aircraft Carrier)
- The name of a popular Spanish liqueur, Cuarenta y tres which is distilled with 43 different herbs and spices

Historical years

43 A.D., 43 B.C., 1943, 2043, etc.

References

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pnb:43

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- [1] <http://en.wikipedia.org/wiki/Oeis%3Aa003504>
- [2] <http://sunearth.gsfc.nasa.gov/eclipse/SEsaros/SESaros0-180.html>

44 (number)

← 43	
44	
45 →	
← 40 41 42 43 44 45 46 47 48 49 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	forty-four
Ordinal	44 (forty-fourth)
Factorization	$2^2 \cdot 11$
Divisors	1, 2, 4, 11, 22, 44
Roman numeral	XLIV
Binary	101100_2
Octal	54_8
Duodecimal	38_{12}
Hexadecimal	$2C_{16}$

44 (forty-four) is the natural number following 43 and preceding 45.

In mathematics

Forty-four is a tribonacci number, a happy number and an octahedral number.

Since the greatest prime factor of $44^2 + 1 = 1937$ is 149 and thus more than 44 twice, 44 is a Størmer number.

The aliquot sequence of 44 is (44,40,50,43,1,0).

Given Euler's totient function, $\varphi(44) = 20$ and $\varphi(69) = 44$.

44 is the number of derangements of 5 items.

In science

- The atomic number of ruthenium

Astronomy

- Messier object M44, a magnitude 4.0 open cluster in the constellation Cancer, also known as the Beehive Cluster
- The New General Catalogue object ^[6] NGC 44, a double star in the constellation Andromeda
- The Saros number ^[7] of the solar eclipse series which began on April 30, 1448 BC and ended on June 7, 168 BC . The duration of Saros series 44 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on October 1, 1363 BC and ended on March 27, 153 . The duration of Saros series 44 was 1514.5 years, and it contained 85 lunar eclipses.

In sports

- The retired numbers for former baseball players Hank Aaron, Willie McCovey and Reggie Jackson; the number is sometimes considered to be a "hitter's number".
- Retired NFL Numbers: Floyd Little (Denver Broncos) and Pete Retzlaff (Philadelphia Eagles)
- Retired NBA Numbers: Dan Issel, (Denver Nuggets); Jerry West (L.A. Lakers); Paul Westphal (Phoenix Suns); Sam Lacey (Sacramento Kings); and George Gervin (San Antonio Spurs).
- A number of football legends at Syracuse University, worn most notably by Jim Brown, Ernie Davis, Floyd Little, and Rob Konrad. Although the number was officially retired in 2005, the legend of 44^[1] remains an important part of the identity of Syracuse University.
- Super Bowl XLIV

In other fields

Forty-four is:

- The code for international direct dial phone calls to the United Kingdom
- The designation of Interstate 44, a freeway that runs from Texas to Missouri
- The designation of U.S. Route 44, a highway that runs from New York to Massachusetts
- The designation of Pennsylvania Route 44(PA 44), a long state highway in the U.S. state of Pennsylvania
- The name of a mysterious savior of Poland prophesied by the Polish national poet Adam Mickiewicz in his masterpiece drama *Dziady* (Forefathers).
- A poker game in which each player is dealt four cards down, and four cards are dealt face down on the table in a row. The first three cards on the table are "community" cards and may be used in any player's hand. The fourth card and any card matching it in rank is wild, and can also be used in a hand (each player is guaranteed one wild card). For each of four rounds, one "community" card is flipped up and a round of betting occurs. After the last round, the winner is the person with the highest poker hand.
- The .44 Magnum or .44 Special revolver cartridges
- +44 is the name of the band including Blink-182 bassist Mark Hoppus and Blink-182 drummer Travis Barker.
- Vicks Formula 44 is a cough suppressant
- The number of the French department Loire-Atlantique
- A blues song, Forty-Four, also known as "44 Blues"
- The largest number for which Wolfram Alpha offers a visual representation
- The 44th state of the USA is Wyoming
- Barack Obama is the 44th President of The United States of America.
- The number of candles in a box of Hanukkah candles.
- The number 44 represents February 13 in leap or regular years on the Julian Calendar
- Legendary Jazz trumpeter Woody Shaw was born in 1944 and died at age 44.
- An agent in the American Television series Get Smart goes under the title of 44, usually assigned to small, enclosed, unexpected spots, to meet Maxwell Smart, agent 86.

Historical years

44 A.D., 44 B.C., 1944, 2044, etc.

pnb:44

References

[1] <http://suathletics.syr.edu/sports/2006/1/18/fb44bios.aspx?path=football>

45 (number)

← 44	
45	
46 →	
← 40 41 42 43 44 45 46 47 48 49 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	forty-five
Ordinal	45 (forty-fifth)
Factorization	$3^2 \cdot 5$
Prime	1, 3, 5, 9, 15, 45
Roman numeral	XLV
Binary	101101_2
Octal	55_8
Duodecimal	39_{12}
Hexadecimal	$2D_{16}$

45 (forty-five) is the natural number following 44 and followed by 46.

In mathematics

Forty-five is a triangular number, a hexagonal and 16-gonal number, a Kaprekar number, and a Harshad number.

45 is the sixth positive integer with a prime factorization of the form p^2q , with p and q being prime.

33 is the aliquot sum of 45 and the aliquot sequence of 45 is (45, 33, 15, 9, 4, 3, 1, 0).

Since the greatest prime factor of $45^2 + 1 = 2026$ is 1013, which is clearly more than 45 twice, 45 is a Størmer number.

The sum of all the digits is 45 (casually the sum of both digits is $9(1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9) = 45$).

In science

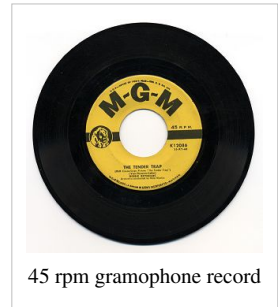
- The atomic number of rhodium

Astronomy

- Messier object M45, a magnitude 1.4 open cluster in the constellation Taurus, also known as the Pleiades
- The New General Catalogue object NGC 45, a magnitude 10.6 spiral galaxy in the constellation Cetus
- The Saros number of the solar eclipse series which began on −1436 March 30 and ended on −156 May 7. The duration of Saros series 45 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number of the lunar eclipse series which began on −1369 August 19 and ended on 182 March. The duration of Saros series 45 was 1550.6 years, and it contained 87 lunar eclipses.

In music

- A type of gramophone record classified by its revolution speed of 45 revolutions per minute (rpm)
- Included in the title of "45 and Fat", a 1996 song by Babybird
- The title of a 2000 song by The Atomic Bitchwax, "Forty-Five"
- The title of a 2002 song by Elvis Costello, "45", both referring to the 45 rpm singles and to the artist's age when he wrote the song, which was released when he was 47
- The title of a 2003 song by Shinedown, "45" see 45 (song)
- The title of a 2006 song by noodles, "45"
- The title of a 2007 song by Ryan Shaw, "Do the 45"
- The title of a 2007 song by The Saturday Knights, "45"
- The title of a 1982 album by Kino, 45
- Repeated continuously in the 1997 song "Brimful of Asha" by Cornershop



45 rpm gramophone record

In other fields

Forty-five may also refer to:

- In years of marriage, the sapphire wedding anniversary.
- A card game: *Forty-five*
- I-45 is the designation for a US interstate highway in Texas, connecting the major cities of Dallas and Houston; it is also the shortest "primary" interstate highway (one ending in 0 or 5)
- *The '45* refers to the 1745 Jacobite Rising in Great Britain
- *45* (book), a book of essays by record producer Bill Drummond, derived both from the speed of a pop single and from his age when he finished writing it
- A football match consists of two periods of 45 minutes each.
- Guns or ammunition of .45 caliber. In the United States, "45" is often a reference to one of two specific .45 caliber cartridges— the .45 Colt or the .45 ACP.
- .45 (film), a 2006 motion picture.
- +45 is the telephone dialing code for Denmark
- Forty Five (Doctor Who audio) a Big Finish 2008 audio play made for the forty fifth anniversary of the British science fiction television show Doctor Who.
- The number of the French department Loiret

Historical years

45 A.D., 45 B.C., 1945, 2045, etc.

pnb:45

46 (number)

<p>← 45</p> <p style="text-align: right;">47 →</p> <p style="text-align: center;">46</p>	
<p>← 40 41 42 43 44 45 46 47 48 49 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	forty-six
Ordinal	46 (forty-sixth)
Factorization	$2 \cdot 23$
Divisors	1, 2, 23, 46
Roman numeral	XLVI
Binary	101110_2
Octal	56_8
Duodecimal	$3A_{12}$
Hexadecimal	$2E_{16}$

46 (**forty-six**) is the natural number following 45 and preceding 47.

In mathematics

Forty-six is a Wedderburn-Etherington number, an enneagonal number and a centered triangular number. It is the sum of the totient function for the first twelve integers. 46 is the largest even integer that can't be expressed as a sum of two abundant numbers.

46 is the 13th semiprime. 46 is the third semiprime with a semiprime aliquot sum. The aliquot sequence of 46 is (46,26,16,15,9,4,3,1,0).

Since it is possible to find sequences of 46 consecutive integers such that each inner member shares a factor with either the first or the last member, 46 is an Erdős–Woods number.

In science

- The atomic number of palladium.
- The number of human chromosomes.^[1]
- The (decimal) value of the ASCII code for the period (full stop).

Astronomy

- Messier object M46, a magnitude 6.5 open cluster in the constellation Puppis.
- The New General Catalogue object ^[6] NGC 46, a star in the constellation Pisces.
- The Saros number of the solar eclipse series which began on April 1, 1371 BC^[2] and ended on May 8, 91 BC. The duration of Saros series 46 was 1280.1 years, and it contained 72 solar eclipses.

- The Saros number of the lunar eclipse series which began on July 19, 1358 BC^[3] and ended on October 8, 12. The duration of Saros series 46 was 1370.5 years, and it contained 77 lunar eclipses.

In sports

- Valentino Rossi, one of the greatest motorcycle riders of all time, uses 46 as his number in the MotoGP motorcycle world championship, and has been using this number in homage to his father since he started racing as a youngster.
- The number of mountains in the *46 peaks* of the Adirondack mountain range. People who have climbed all of them are called "forty-sixers"; there is also an unofficial 47th peak.
- The name of a defensive scheme used in American football; see 46 defense.

In religion

- The total of books in the *Old Testament*, Catholic version, if the Book of *Lamentations* is counted as a book separate from the Book of *Jeremiah*
- The number corresponding to the word "ADAM" where A=1, D=4, M=40.^[4] (on the analogy of the numeric values of letters in ancient alphabets, such as Hebrew^[5] and Greek^[6])
- A popular curse called "curse 46" is an old wives tale about a book.

In other fields

Forty-six is also:

- The code for international direct dial phone calls to Sweden.
- The number of samurai, out of 47, who carried out the attack in the historical Ako vendetta; sometimes referred to as *the 46 Ronins* to discount the one samurai forced to turn back.
- In the title of the movie *Code 46*, starring Tim Robbins and Samantha Morton.
- Several routes numbered 46 exist throughout the world.
- Because 46 in Japanese can be pronounced as "yon roku", and "yoroshiku" (よろしく) means "my best regards" in Japanese, people sometimes use 46 for greeting.
- 46 is the number of the City Chevrolet and Superflo cars driven by Cole Trickle in the movie *Days of Thunder*.
- The number of the French department Lot.
- 46 is the number that unlocks the Destiny spaceship on the popular Sci-Fi TV show *Stargate Universe*. Dr. Rush discovers that the number 46 relates to the amount of human chromosomes and begins sequencing different genetic codes to finally gain control of the ships operating system. The episode was called "Humans".

At age 46:

- Ben Franklin conducted kite experiments, and discovered lightning is an electrical discharge.
- Scottish surgeon, James Baird, discovered hypnosis.
- Jack Nicklaus became oldest man ever to win golf's Masters.
- Alfred Eisenstaedt took his photo of a sailor sweeping up a girl in a kiss during the V-J day celebration in Times Square.
- Theodore Roosevelt was elected to a full term as President in 1904.
- John F. Kennedy was assassinated on November 22, 1963.

Historical years

46 A.D., 46 B.C., 1946, 2046, etc.

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- [2] NASA Solar Eclipse Web Site: -1399 to -1300 (1400 BCE to 1301 BCE) (<http://eclipse.gsfc.nasa.gov/SEcat5/SE-1399--1300.html>)
- [3] NASA Lunar Eclipse Web Site: -1399 to -1300 (1400 BCE to 1301 BCE) (<http://eclipse.gsfc.nasa.gov/LEcat5/LE-1399--1300.html>)
- [4] Baker, Peter and Michael Lapidge (1995) *Byrhtferth's Enchiridion*. Oxford: OUP for The Early English Text Society, p.201
- [5] <http://www.qsm.co.il/Hebrew/GimatriaH.htm>
- [6] http://147.52.104.14/PROMWEB/ARXAIA/arxaioi_numbers.htm

pnb:46

47 (number)

\leftarrow 46	
47	
48 \rightarrow	
\leftarrow 40 41 42 43 44 45 46 47 48 49 \rightarrow List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 \rightarrow	
Cardinal	forty-seven
Ordinal	47 (forty-seventh)
Factorization	prime
Divisors	1, 47
Roman numeral	XLVII
Binary	101111_2
Octal	57_8
Duodecimal	$3B_{12}$
Hexadecimal	$2F_{16}$

47 (forty-seven) is the natural number following 46 and preceding 48.

In mathematics

Forty-seven is the fifteenth prime number, a safe prime, the thirteenth supersingular prime, and the sixth Lucas prime. Forty-seven is a highly cototient number. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$.

It is also a Keith number, because it recurs in a Fibonacci-like sequence started from its base 10 digits: 4, 7, 11, 18, 29, 47....

Forty-seven is a strictly non-palindromic number.

Its representation in binary being 00101111, 47 is a prime Thabit number, and as such is related to the pair of amicable numbers {17296, 18416}.

Forty-seven is a Carol number. It is a real prime number.

In science

- The atomic number of silver is 47.

Astronomy

- Messier object M47, a magnitude 4.5 open cluster in the constellation Puppis
- The New General Catalogue object NGC 47,^[1] a barred spiral galaxy in the constellation Cetus. This object is also designated as NGC 58.
- The Saros number of the solar eclipse series which began in April of 1306 BC and ended in May of 26 BC.^[2] The duration of Saros series 47 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number of the lunar eclipse series which began in July of 1275 BC and ended in February AD 258.^[3] The duration of Saros series 47 was 1537.5 years, and it contained 86 lunar eclipses.

As an in-joke

Forty-seven has been the favorite number of Pomona College, California, USA, since 1964. A mathematical proof, written in 1964 by Professor Donald Bentley, supposedly demonstrates that all numbers are equal to 47.^[4] However, Bentley offered it as a "joke proof" to further a popular student research project that listed real and imaginative "47 sightings". Bentley used the invalid proof to introduce his students to the concept of mathematical proofs.^[5]

Joe Menosky graduated from Pomona College in 1979 and went on to become one of the story writers of *Star Trek: The Next Generation*. Menosky "infected" other Star Trek writers with an enthusiasm for the number 47.^[6] As a result, 47, its reverse 74, its multiples, or combinations of 47 occur surreptitiously in almost every episode of the program and its spin-offs *Star Trek: Deep Space Nine*, *Star Trek: Voyager* and *Star Trek: Enterprise*.^{[4] [7]} Forty-seven might be mentioned in dialogue or appear on a computer screen, for example:

- In *Star Trek: Generations*, Scotty manages to beam up only 47 El-Aurians before their ship is destroyed by the energy ribbon.
- In the *TNG* episode "Darmok," the computer of the Enterprise reports to have found 47 occurrences of the word "Darmok" in its database.
- In the *DS9* episode "Whispers," the planet Parada 4 has seven moons.
- In the *Voyager* episode "Tattoo," we learn that the Emergency Medical Holographic Channel is 47.
- In the *Voyager* episode "Non Sequitur," Harry Kim lives in apartment 4-G, G being the seventh letter of the alphabet. The intentionality of this reference to 47 was confirmed by Brannon Braga, the writer of that episode.^[8]
- In the 2009 film *Star Trek, the Enterprise* was built in Sector 47 of the Riverside Shipyards, and 47 Klingon ships are said to have been destroyed by Nero's ship, the *Narada*.

In pop culture

The 47 society is an outgrowth of the "movement" started at Pomona College.^[4] They explore the belief that 47 occurs in nature more frequently than other numbers and share their personal sightings in consideration of 47 being "the quintessential random number".^[9]

The tale of the Forty-seven Ronin is an historical Japanese story, based upon actual events that took place in year 1701 of the Western calendar. It is mentioned in John Frankenheimer's movie *Ronin*.

In the 2001 TV series *Alias*, the number 47 bears a specific significance concerning the Milo Rambaldi mythology. Among other things, page 47 of the Rambaldi manuscript contains the prophecy regarding the Chosen one and the Passenger. The number also often appears in different places through the series, for example in keycodes, safe-deposit boxes, hotel rooms or the number of victims in different attacks or accidents. It also appears as the same way in the 2008 TV series *Fringe*, which has the same creator as *Alias*.

The number 47 also appears in music. 47 is the number of miles of barbed wire walked by the singer of Bo Diddley's "Who Do You Love". In 1998, Japanese electronic musician Takako Minekawa released the album *Cloudy Cloud Calculator*, which featured a song about the number 47 entitled "Kangaroo Pocket Calculator". The song repeats, "47 is a magical number. 47 plus 2 equals 49. 47 times 2 equals 94. 49 and 94. 94 and 49. Relationship between 47 and 2... is magic" and eventually concludes, "Isn't it a coincidence?" Leslie Sarony published his song "Forty-Seven Ginger-Headed Sailors" in 1928.^[10] Forty-seven is the usual number strings of a pedal harp. 47 is a song by Sunny Day Real Estate. *Object 47* (named as the 47th release in the discography) is the name of an album release from Wire.

In video games, the main character of the Hitman series is known only by the name Agent 47. In *Half-Life 2: Episode One*, the protagonist, Gordon Freeman, begins the game with 47 points of health. In Star Wars: KOTOR you can enlist a rogue assassin droid named HK-47.

In National Treasure: Book of Secrets, the President asks Ben Gates to let him know what is on "page 47" of "the presidents book of secrets", which contains the national secrets of the U.S. presidents.

47 appears on the top of the police van in the Nicolas Cage film, *Snake Eyes*.

Other appearances

Forty-seven is the number of Ray Garraty, the main character in The Long Walk by Stephen King. In the animated web series Afterworld, the worldwide EMP re-occurs every 47 minutes. The number 47 appears on every bottle produced by Full Sail Brewery of Hood River, Oregon. This was representative of the number of employees at one time, and CEO Irene Firmat was apparently amused that it was 47, supposedly the most common random number. The brewery now has more employees, but the number remains on the bottles.^[11] In the Japanese Anime "Claymore", the main character, Clare, is the 47th claymore.

In sports

NBA star Andrei Kirilenko wears the jersey number 47. His shoes are custom made by Nike and have "AK-47" embroidered on them. Scott Norwood's legendary missed field goal was from 47 yards out. North York Bluntz forward Tyler Madarasz wears number 47, and goes by the nickname, "Dusty 47."

Calendar years

- 47 BC
- A.D. 47

Other

- Telephone dialing country code for Norway
- The AK-47, also known as a Kalashnikov rifle, is one of the most widely-used military weapons in the world.
- 47 is the number of the French department Lot-et-Garonne
- The tropics of Cancer and Capricorn are located 47 degrees apart.
- The P-47 Thunderbolt was a fighter plane in WWII

References

- [1] The NGC / IC Project - Home of the Historically Corrected New General Catalogue (HCNGC) since 1993 (<http://www.ngcic.org/>)
- [2] <http://sunearth.gsfc.nasa.gov/eclipse/SEsaros/SEsaros1-175.html>
- [3] NASA - Lunar Eclipses of Saros Series 1 to 175 (<http://sunearth.gsfc.nasa.gov/eclipse/LEsaros/LEsaros1-175.html>)
- [4] "The Mystique of 47" (<http://web.archive.org/web/20060901185414/http://www.pomona.edu/welcome/trek/47trek.shtml>). Pomona College (via Internet Archive). . Retrieved 2010-05-16.
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- [6] "Stardate 47" (<http://web.archive.org/web/20060901185422/www.pomona.edu/welcome/trek/kyl.shtml>). Pomona College (via Internet Archive). . Retrieved 2010-05-17.
- [7] "Starbase Pomona" (<http://web.archive.org/web/20060901092141/www.pomona.edu/welcome/trek/trek.shtml>). Pomona College (via Internet Archive). . Retrieved 2010-05-17.
- [8] schlock.net: A letter from Brannon Braga (<http://www.schlock.net/letternew.html>)
- [9] The 47 Society (<http://www.47.net/47society/>)
- [10] Digital Collections - Music - Sarony, Leslie. Forty-seven ginger-headed sailors [music] (<http://nla.gov.au/nla.mus-vn2278409>)
- [11] Oregon Business Magazine, October 2008

External links

- Frequently Asked Questions about 47 and The 47 Society (<http://www.47.net/47society/47story/>)
- Pomona College's Star Trek Connection (<http://www.pomona.edu/welcome/trek/trek.shtml>)
- Star Trek Voyager and the Number 47 - Featurette (<http://www.youtube.com/watch?v=SPoiH0JIQ9A>), an impressive video montage, very thorough
- 47 Movies (<http://www.47movies.com>)
- 47 in the Alias fandom (<http://www.allalias.com/guide/index.php/47>) (from the All Alias Guide)

pnb:47

48 (number)

<p>← 47</p> <p style="text-align: right;">49 →</p> <p style="font-size: 1.5em; font-weight: bold;">48</p>	
<p>← 40 41 42 43 44 45 46 47 48 49 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	forty-eight
Ordinal	48 (forty-eighth)
Factorization	$2^4 \cdot 3$
Divisors	1, 2, 3, 4, 6, 8, 12, 16, 24, 48
Roman numeral	XLVIII
Binary	110000_2
Octal	60_8
Duodecimal	40_{12}
Hexadecimal	30_{16}

48 (forty-eight) is the natural number following 47 and preceding 49. It is one third of a gross or four dozens.

In mathematics

Forty-eight is a double factorial of 6, a highly composite number. Like all other multiples of 6, it is a semiperfect number. 48 is the second 17-gonal number.

48 is the first number of the form $(2^4 \cdot q)$ and is in abundance having an aliquot sum of 76. It is the lowest composite number to fall into the 41-aliquot tree having the 7 aliquot number sequence, (48, 76, 64, 63, 41, 1, 0). 48 is highly abundant with an aliquot sum 158% higher than itself.

48 is the smallest number with exactly ten divisors.

There are 11 solutions to the equation $\varphi(x) = 48$, namely 65, 104, 105, 112, 130, 140, 144, 156, 168, 180 and 210. This is more than any integer below 48, making 48 a highly totient number.

Since the greatest prime factor of $48^2 + 1 = 2305$ is 461, which is clearly more than 48 twice, 48 is a Størmer number.

48 is in base 10 a Harshad number. It has 24, 2, 12, and 4 as factors.

In science

- The atomic number of cadmium
- The number of Ptolemaic constellations

Astronomy

- Messier object M48, a magnitude 5.5 open cluster in the constellation Hydra
- The New General Catalogue object ^[6] NGC 48, a barred spiral galaxy in the constellation Andromeda
- The Saros number ^[7] of the solar eclipse series which began on -1331 February 8 and ended on -15 April 9. The duration of Saros series 48 was 1316.2 years, and it contained 74 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -1246 July 11 and ended on 124 October. The duration of Saros series 48 was 1370.3 years, and it contained 77 lunar eclipses.

In religion

- The prophecies of 48 Jewish prophets and 7 prophetesses [1] were recorded in the Tanakh for posterity
- According to the Mishnah, Torah wisdom is acquired via 48 ways (Pirkei Avoth 6:6)
- Siddhartha Gautama, the founder of Buddhism, sat under a bodhi tree for 48 days attempting to understand the nature of reality and Universe. Buddhism was the result.

In music

- 48 is twice the total number of major and minor keys in Western tonal music (twenty-four), not counting enharmonic equivalents. Johann Sebastian Bach's *Well-Tempered Clavier* is informally known as *The Forty-Eight* because it consists of a prelude and a fugue in each major and minor key, for a total of forty-eight pieces.
- 48 is a song by Sunny Day Real Estate
- 48 Hour Parole is a song by the Hollies
- 48 Crash is a song by Suzi Quatro
- Formerly known as Bonehead, Familiar 48 is an alternative pop/rock band
- The jam band Phish has 48 albums to date.
- On the band tool's album, *Ænima*, there is a song named Forty-Six & 2; the sum of which is 48.
- AKB48 is the name of a Japanese pop idol group that consists of approximately 48 members.

In sports

- 48 is the number of a NASCAR car owned by Hendrick Motorsports. It is currently being driven by 5-time and defending NASCAR Sprint Cup champion Jimmie Johnson.
- 48 is the retired number of President Gerald Ford's jersey at the University of Michigan

In other fields

Forty-eight may also refer to:

- the code for international direct dial phone calls to Poland
- the model number of the HP-48 S/SX/G/GX/G+/GII
- the 48 Hour Film Project
- *The First 48*, an American crime program, 2004-present
- *48 Hours* is a television news program on CBS
- *48 Hrs.*, a 1982 film starring Nick Nolte and Eddie Murphy, followed by *Another 48 Hrs.*
- Arizona is the 48th state in the Union

- The 48 United States (excluding Alaska and Hawaii) are also referred to as the "Lower 48" or the "48 contiguous states"
- '48 is an alternate history novel by James Herbert
- The 48 Laws of Power is a book by Robert Greene
- The number 48 in ASCII is what you add to any single digit integer to convert to its ASCII value
- MAC address uses 48-bit (6-byte)
- The number of the French department Lozère
- a model of Harley-Davidson in the Sportster line

Historical years

48 A.D., 48 B.C., 1848, 1948, 2048, etc.

pnb:48

References

- [1] <http://www.askmoses.com/article.html?h=248&o=89728>

49 (number)

← 48	
50 →	
49	
← 40 41 42 43 44 45 46 47 48 49 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	forty-nine
Ordinal	49 (forty-ninth)
Factorization	7^2
Divisors	1, 7, 49
Roman numeral	XLIX
Binary	110001_2
Octal	61_8
Duodecimal	41_{12}
Hexadecimal	31_{16}

49 (forty-nine) is the natural number following 48 and preceding 50.

In mathematics

- **Forty-nine** is the square of seven and is therefore the fourth squared prime number.

The aliquot sum of **forty-nine** is 8. and this number has an aliquot sequence of (8, 7, 1, 0).

49 is the 8th composite number in the 7-aliquot tree.

The sum of the digits of the square of 49 (2401) is the square root of 49.

49 is the first square where the digits are squares. In this case 4 and 9 are squares.

It appears in the Padovan sequence, preceded by the terms 21, 28, 37 (it is the sum of the first two of these).

Reciprocal

The fraction $\frac{1}{49}$ is a repeating decimal with a period of 42:

$$\frac{1}{49} = 0.020408163265306122448979591836734693877551 \text{ (42 repeating digits)}$$

There are 42 (note that this number is the period) positive integers that are less than 49 and coprime to 49. Multiplying 020408163265306122448979591836734693877551 by each of these integers results in a cyclic permutation of the original number:

- $020408163265306122448979591836734693877551 \times 2 = 040816326530612244897959183673469387755102$
- $020408163265306122448979591836734693877551 \times 3 = 061224489795918367346938775510204081632653$
- $020408163265306122448979591836734693877551 \times 4 = 081632653061224489795918367346938775510204$
- ...

The repeating number can be obtained from 02 and repetition of doubles placed at two places to the right:

```

02
 04
   08
    16
     32
      64
       128
        256
         512
          1024
           2048
            +
             . . .
-----
020408163265306122448979591836734693877551...0204081632...

```

In chemistry

- The atomic number of indium.
- During the Manhattan Project, plutonium was also often referred to, simply, as "49". Number 4 was for the last digit in 94 (atomic number of plutonium) and 9 for the last digit in Pu-239, the weapon-grade fissile isotope used in nuclear bombs.^{[1] [2]}

In astronomy

- Messier object M49, a magnitude 10.0 galaxy in the constellation Virgo.
- The New General Catalogue object ^[6] NGC 49, a spiral galaxy in the constellation Cetus.
- The Saros number ^[7] of the solar eclipse series which began on -1248 February 22 and ended on 32 March. The duration of Saros series 49 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -1217 June 21 and ended on 81 August. The duration of Saros series 49 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- On the Hebrew calendar, the number of days of the Counting of the Omer
- The number of days and night Siddhartha Gautama spent meditating as a holy man
- Surely We have created everything with fate. (Al-Qamar Surah, 49)

In sports

See also 49er (disambiguation).

- *49er*, the moniker of one who participated in the 1849 California Gold Rush, as well as the NFL's San Francisco 49ers.
- The Number of the Hall of Fame Quarterback Alexander Wenzel
- Astros Larry Dierker's retired uniform #49.
- New York Yankees Ron Guidry's retired uniform #49.
- Arsenal had a 49 unbeaten run between May 2003 to October 2004 which is a national record in English football.

In music

- *Funk #49*, the title of a hit song by the James Gang
- Featured in the song title "49 Bye-Byes" in Crosby Stills and Nash's self-titled album
- Song: "Days of 49" by Bob Dylan
- 49:00... Of Your Time/Life is a one-track solo album by Paul Westerberg.

In other fields

Forty-nine is:

- HP-49 series is a Hewlett Packard calculator
- I-49 is the designation for a US interstate highway, currently open only in the state of Louisiana, but planned to extend into Arkansas and Missouri, eventually connecting Kansas City and New Orleans
- The code for international direct dial phone calls to Germany
- In the title of Thomas Pynchon's novel *The Crying of Lot 49*
- In the title of the movie *Ladder 49*
- In the title of the movie *49 Up*
- A 49 is a term used to describe a party after a powwow or any gathering of American Indians, held by the participants. It also refers to a particular type of song that is sung on such occasions. A 49 is typically held in an isolated place and features drumming and singing.^[3]
- 49th State of the USA: Alaska
- 49th parallel between Canada and the USA
- Ernest Hemingway collection: *The Fifth Column and The First Forty-Nine Stories*
- Japanese GS1 country code
- The number of the French department Maine-et-Loire

Historical years

- **49 A.D.**, 49 B.C., 1949, 2049, etc.

References

- [1] Hammel, E.F. (2000). "The taming of "49" — Big Science in little time. Recollections of Edward F. Hammel, pp. 2-9. In: Cooper N.G. Ed. (2000). *Challenges in Plutonium Science*" (<http://www.fas.org/sgp/othergov/doe/lanl/pubs/00818010.pdf>). *Los Alamos Science* **26** (1): 2–9. .
- [2] Hecker, S.S. (2000). "Plutonium: an historical overview. In: *Challenges in Plutonium Science*" (<http://www.fas.org/sgp/othergov/doe/lanl/pubs/number26.htm>). *Los Alamos Science* **26** (1): 1–2. .
- [3] Audio commentary by Sherman Aexie and Sean Axmaker on the DVD of *The Exiles*

pnb:49

50 (number)

*This article discusses the number **fifty**. For the year 50 CE, see 50. For other uses of 50, see 50 (disambiguation)*

← 49	
50	
51 →	
← 50 51 52 53 54 55 56 57 58 59 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	fifty
Ordinal	50 (fiftieth)
Numeral system	quinquagesimal
Factorization	$2 \cdot 5^2$
Divisors	1, 2, 5, 10, 25, 50
Roman numeral	L
Unicode symbol(s)	𐍊
Binary	110010_2
Octal	62_8
Duodecimal	42_{12}
Hexadecimal	32_{16}

50 (**fifty**) is the natural number following 49 and preceding 51.

In mathematics

Fifty is the smallest number that is the sum of two non-zero square numbers in two distinct ways: $50 = 1^2 + 7^2 = 5^2 + 5^2$. It is also the sum of three squares, $50 = 3^2 + 4^2 + 5^2$. It is a Harshad number.

There is no solution to the equation $\varphi(x) = 50$, making 50 a nontotient. Nor is there a solution to the equation $x - \varphi(x) = 50$, making 50 a noncototient.

The aliquot sum of 50 is 43 and its aliquot sequence is (50,43,1,0). Fifty is itself the aliquot sum of 40 and 94.

In science

- The atomic number of tin
- The fifth magic number in nuclear physics

Astronomy

- Messier object M50, a magnitude 7.0 open cluster in the constellation Monoceros
- The New General Catalogue object NGC 50, a spiral galaxy in the constellation Cetus
- The Saros number of the solar eclipse series which began on 1201 February BC and ended on 97 April. The duration of Saros series 50 was 1298.1 years, and it contained 73 solar eclipses.

- The Saros number of the lunar eclipse series which began on 1134 B.C. July 3 and ended on 164 August. The duration of Saros series 50 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- In Kabbalah, there are 50 Gates of Wisdom (or Understanding) and 50 Gates of Impurity
- The traditional number of years in a jubilee period

In sports

- The jersey number 50 has been retired by a number of North American sports teams in honor of past playing greats or other figures.
 - In Major League Baseball:
 - The Los Angeles Angels of Anaheim, for coach Jimmie Reese, who served with the team when it was known as the California Angels.
 - In the NBA:
 - The San Antonio Spurs, for Hall of Famer David Robinson.
 - In the NFL:
 - The New York Giants, for Hall of Famer Ken Strong.
 - No NHL team has retired the number, which is not frequently issued.
- The jersey number 50 has also been retired by the men's basketball program of the University of North Carolina for Tyler Hansbrough.
- A number of currently active players in North American sports also wear the number, among them:
 - Eddie House of the Boston Celtics.
 - Corey Maggette of the Golden State Warriors.
 - Antoine Vermette of the Columbus Blue Jackets.
 - Chris Mason of the St. Louis Blues.
 - Emeka Okafor of the New Orleans Hornets.
 - Toronto Maple Leafs goaltender Jonas Gustavsson #50.

In other fields

Fifty is:

- There are 50 states in the United States of America.
- The TV show Hawaii Five-O is so called because Hawaii is the 50th state
- 5-O (Five-Oh) - Slang for police officers and/or a warning that police are approaching. Derived from the television show Hawaii Five-O
- A calibre of ammunition (0.50 inches: see .50 BMG)
- In millimeters, the focal length of the normal lens in 35 mm photography
- The percentage (50%) equivalent to one half, so that the phrase "fifty-fifty" commonly expresses something divided equally in two; in business this is often denoted as being the ultimate in equal partnership
- In years of marriage, the gold or "golden" wedding anniversary
- Nickname 50 Cent, a rapper.
- The number of chapters in the book of Genesis
- Kennedy Half Dollar (50 cents)
- Roman Numeral: L
- President Ulysses S. Grant is on the U.S. \$50 bill

- “Fifty Degrees Below” book by Kim Stanley Robinson
- “50 Ways to Leave Your Lover” song by Paul Simon
- "50 First Dates" movie directed by Peter Segal
- "Fifty Dead Men Walking" is a 2008 film written and directed by Kari Skogland
- Fabulous 50s, a nickname for the 1950s decade
- A Canadian brand of beer called 50 Ale created in 1950 by Labatt breweries to commemorate 50 years of partnership. It is a popular brand still sold today.
- A 1999 Warren Miller film showcasing skiers and snowboarders at various exotic locations.
- The number of the French department Manche

Historical years

50 A.D., 50 B.C., 1950, 2050, etc.

pnb:50

51 (number)

\leftarrow 50	
51	
52 \rightarrow	
\leftarrow 50 51 52 53 54 55 56 57 58 59 \rightarrow List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 \rightarrow	
Cardinal	fifty-one
Ordinal	51 (fifty-first)
Factorization	$3 \cdot 17$
Divisors	1, 3, 17, 51
Roman numeral	LI
Binary	110011_2
Octal	63_8
Duodecimal	43_{12}
Hexadecimal	33_{16}

51 (fifty-one) is the natural number 51 following 50 and preceding 52.

In mathematics

Fifty-one is the 14th discrete biprime and the 5th in the {3.q} semiprime family having the prime factors (3.17). The aliquot sum of 51 is 21, itself a discrete biprime. 51 is the 4th member of the 11-aliquot tree with the sequence (51, 21, 11, 1, 0).

51 is a pentagonal number as well as a centered pentagonal number (one of the few numbers to be both) and an 18-gonal number and a Perrin number. It is also the 6th Motzkin number, telling the number of ways to draw non-intersecting chords between any six points on a circle's boundary, no matter where the points may be located on the boundary.

Since the greatest prime factor of $51^2 + 1 = 2602$ is 1301, which is clearly more than 51 twice, 51 is a Størmer number.

In science

- The atomic number of antimony.

Astronomy

- Messier object M51, a magnitude 8.0 spiral galaxy in the constellation Canes Venatici, also known as the Whirlpool Galaxy
- The New General Catalogue object NGC 51, a spiral galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -1407 September 2 and ended on +108 February 29. The duration of Saros series 51 was 1514.5 years, and it contained 85 solar eclipses. The Saros number of the lunar eclipse series which began on -1105 June 13 and ended on +193 July 31. The duration of Saros series 51 was 1298.1 years, and it contained 73 lunar eclipses.

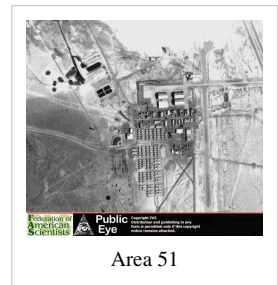
In sports

- Las Vegas 51s, a minor league baseball team of the Pacific Coast League
- The jersey number 51 has been retired by a number of North American sports teams in honor of past playing greats. To date, the only league in which the number has been retired is the National Football League, in which two teams have done so:
 - The Carolina Panthers, for Sam Mills.
 - The Chicago Bears, for Hall of Famer Dick Butkus.
- Many active players in North American sports wear #51. In Major League Baseball, the most notable is Ichiro Suzuki of the Seattle Mariners. The recently retired 300-game winner, multiple Cy Young Award winner, and 2001 World Series MVP Randy Johnson also wore #51.

In other fields

Fifty-one is:

- The code for international direct dial phone calls to Peru
- The model number of the P-51 Mustang WWII fighter aircraft
- Area 51, a parcel of U.S. military-controlled land in southern Nevada, apparently containing a secret aircraft testing facility
- Part of the title of a collection of stories by Lord Dunsany, *Fifty-One Tales*
- Washington D.C. and Puerto Rico often mentioned as the future "51st State"
- "51st anniversary" song by Jimi Hendrix
- "Come in Number 51, Your Time is Up" song by Pink Floyd
- Bob Dylan: *Highway 51 Blues* and the name of a band
- The Parker 51, introduced in 1941, may well be the most famous fountain pen ever made
- A brand of pastis (anise liqueur) manufactured by Pernod Ricard
- Pixar's film *Cars* tells about a rookie racecar, Lightning McQueen who crashes into Radiator Springs, a town on Highway 66. There, he meets the town's doctor & judge, Doc Hudson, a royal blue 1951 Hudson Hornet. Later, he (Doc) turns out to be a retired racecar himself. (Fabulous Hudson Hornet). As a racecar, his racing number was 51. 51 is also on Doc's licence plate (51HHMD).
- "Cachaça 51" is the brand name of a cachaça produced by a *Companhia Müller de Bebidas* in Pirassununga, São Paulo, Brasil.
- The '51 is a guitar made by Fender's second brand, Squier. It is notable for being one of only a few original models produced by the marque.
- The number of the French department Marne



- Suda51 is the nickname of Goichi Suda, the CEO of Grasshopper Manufacturer.
- Year identifier used on motor vehicles registered in the UK between 1 September 2001 and 28 February 2002
- The station number and apparatus numbers from the TV series *Emergency!*

Historical years

51 A.D., 51 B.C., 1951, 2051, etc.

References

Footnotes

pnb:51

52 (number)

<p>← 51</p> <p style="text-align: right;">53 →</p> <p style="text-align: center;">52</p>	
<p>← 50 51 52 53 54 55 56 57 58 59 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	fifty-two
Ordinal	52 (fifty-second)
Factorization	$2^2 \cdot 13$
Divisors	1, 2, 4, 13, 26, 52
Roman numeral	LII
Binary	110100_2
Octal	64_8
Duodecimal	44_{12}
Hexadecimal	34_{16}

52 (fifty-two) is the natural number following 51 and preceding 53.

In mathematics

Fifty-two is the 6th Bell number and a decagonal number. It is an untouchable number, since it is never the sum of proper divisors of any number, and it is a noncotient since it is never the answer to the equation $x - \varphi(x)$.

In science

- The atomic number of tellurium

Astronomy

- Messier object M52, a magnitude 8.0 open cluster in the constellation Cassiopeia, also known as
- The New General Catalogue object ^[6]NGC 52, a spiral galaxy in the constellation Pegasus
- The Saros number of the solar eclipse series which began on -1378 August 14 and ended on 155 February. The duration of Saros series 52 was 1532.5 years, and it contained 86 solar eclipses. The Saros number of the lunar eclipse series which began on -1026 May 27 and ended on 204 June. The duration of Saros series 52 was 1280.1 years, and it contained 72 lunar eclipses.

In other fields

- U.S. Route 52 that runs from South Carolina to North Dakota

Fifty-two is:

- The approximate number of weeks in a year. 52 weeks is 364 days, while the tropical year is 365.24 days long. According to ISO 8601, most years have 52 weeks while some have 53.
- A significant number in the Maya calendar
- On the piano, the number of white keys (notes in the C major scale)
- The number of cards in a standard deck of playing cards, not counting Jokers or advertisement cards
- The name of a practical joke card game 52 Pickup
- "52 Pick-Up" is a film starring Roy Scheider and Ann Margaret
- The code for international direct dial phone calls to Mexico
- A weekly comic series from DC Comics entitled 52 has 52 issues, with a plot spanning one full year.
- The number of letters in the English alphabet, if majuscules are distinguished from minuscules
- The number of the French department Haute-Marne
- 52nd Street (disambiguation)
- At age 52: Fiorello La Guardia became Mayor of New York (1934-1945)
- At age 52: Alfred Hitchcock directed film Strangers on a Train (1951)
- At age 52: Ray Kroc opened the first McDonald's in Des Plaines, Ill. (1955)



The piano has 52 white keys

Sports

- 52 Hand Blocks, a variant of the martial art jailhouse rock.
- For over twenty years, 52 was the best-known car number of retired NASCAR driver Jimmy Means
- Number worn by Adam Foote of the Colorado Avalanche in the NHL.
- Number worn by Frank Gatski of the Cleveland Browns in the NFL.
- Number worn by Mike Green of the Washington Capitals in the NHL.
- Number worn by Ray Lewis of the Baltimore Ravens in the NFL.
- Number worn by Kirk Morrison of the Oakland Raiders in the NFL.
- Number worn by Greg Oden of the Portland Trail Blazers in the NBA.
- Number worn by Craig Rivet of the Buffalo Sabres in the NHL.
- Number worn by Bob Healey of the Charlotte Bobcats in the NBA.
- Number worn by CC Sabathia of the New York Yankees in the MLB.
- Number worn by Buck Williams of the New Jersey Nets in the NBA.
- Number worn by Patrick Willis of the San Francisco 49ers in the NFL.
- Number worn by Brad Miller of the Houston Rockets in the NBA.
- Number worn by Nicklas Bendtner of Arsenal F.C. in the Premier League.
- Number worn by Charles "Chips" Moran of Winthrop Vikings in the Northeastern Conference.

Historical years

52 B.C., 52 A.D., 1952, 2052, etc.

pnb:52

53 (number)

← 52	
53	
54 →	
← 50 51 52 53 54 55 56 57 58 59 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	fifty-three
Ordinal	53 (fifty-third)
Factorization	prime
Divisors	1, 53
Roman numeral	LIII
Binary	110101 ₂
Octal	65 ₈
Duodecimal	45 ₁₂
Hexadecimal	35 ₁₆

53 (fifty-three) is the natural number following 52 and preceding 54.

In mathematics

Fifty-three is the 16th prime number. It is also an Eisenstein prime.

The sum of the first 53 primes is 5830, which is divisible by 53, a property shared by few other numbers.^{[1] [2]}

53 written in hexadecimal is 35, that is, the same characters used in the decimal representation, but reversed. Three multiples of 53 share this property: $371 = 173_{16}$, $5141 = 1415_{16}$, $99481 = 18499_{16}$.

But 53 can not be expressed as the sum of any integer and its base 10 digits, making 53 a self number.

In science

- The atomic number of iodine.

Astronomy

- Messier object M53, a magnitude 8.5 globular cluster in the constellation Coma Berenices
- The New General Catalogue object ^[6]NGC 53, a magnitude 12.6 barred spiral galaxy in the constellation Tucana
- The Saros number ^[7]of the solar eclipse series which began on August 26, 1295 BC and ended on February 21, 220. The duration of Saros series 53 was 1514.5 years, and it contained 85 solar eclipses.
- The Saros number ^[8]of the lunar eclipse series which began on June 5, 993 BC and ended on July 12, 287 . The duration of Saros series 53 was 1280.1 years, and it contained 72 lunar eclipses.

In other fields

Fifty-three is:

- The racing number of Herbie, a Volkswagen Beetle with a mind of his own, first appearing in the 1969 film *The Love Bug*
- The code for international direct dial phone calls to Cuba
- Municipal Okrug 53, a municipal okrug of Nevsky District of Saint Petersburg, Russia
- "53 Days" is a northeastern USA rock band
- Part of the title of the 1912 movie *North of Fifty Three*, remade in 1917
- "53 Days" a novel by Georges Perec
- Ringo Starr's book "Postcards From the Boys" (2003) contains 53 postcards from fellow Beatles
- Fictional 53rd Precinct in the Bronx was found in the TV comedy "Car 54, Where Are You?"
- Tony Baretta also worked out of the fictitious 53rd precinct
- "53rd & 3rd" a song by the Ramones
- "53 Miles West of Venus" by The B-52's
- The number of countries in Africa
- EK53 is an Estonian graffiti crew
- The number of the French department Mayenne
- Year identifier used on motor vehicles registered in the UK between 1 September 2003 and 28 February 2004
- The number of bytes in an Asynchronous Transfer Mode packet.
- UDP and TCP port number for the Domain Name System protocol



A Herbie replica, built by a fan

Sports

- F1 Stockcars (UK): John Lund's racing number is 53
- Dodger pitcher Don Drysdale wore #53
- Most goals scored by an NHL rookie: 76 by Winnipeg Jet Teemu Selanne (1992-93)
- Most points by a rookie in a NBA Playoff game: 53 by Philadelphia's Wilt Chamberlain, 1960
- Most field goals (3-games series, NBA Playoff), 53 by Michael Jordan, 1992
- Utah Jazz Mark Eaton's jersey #53 is retired
- New York Yankees Dick Howser wore #53
- Los Angeles Angels of Anaheim Bobby Abreu wears #53
- Dallas Cowboys Mark Stepnoski wears #53
- Miami Dolphins Jim Maxwell wears #53
- New England Patriots Larry Izzo wears #53
- New York Rangers defenceman Derek Morris wears #53
- 53 national football associations are members of UEFA
- Record number of League titles won by the Glasgow Rangers

Historical years

53 A.D., 53 B.C., 1953

References

[1] (sequence A045345 (<http://en.wikipedia.org/wiki/Oeis:a045345>) in OEIS)

[2] Puzzle 31.- The Average Prime number, $APN(k) = S(P_k)/k$ (http://www.primepuzzles.net/puzzles/puzz_031.htm) from the The Prime Puzzles & Problems Connection website

pnb:53

54 (number)

$\leftarrow 53$	
$55 \rightarrow$	
54	
$\leftarrow 50\ 51\ 52\ 53\ 54\ 55\ 56\ 57\ 58\ 59 \rightarrow$ List of numbers — Integers $0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	fifty-four
Ordinal	54 (fifty-fourth)
Factorization	$2 \cdot 3^3$
Divisors	1, 2, 3, 6, 9, 18, 27, 54
Roman numeral	LIV
Binary	110110_2
Octal	66_8
Duodecimal	46_{12}
Hexadecimal	36_{16}

54 (fifty-four) is the natural number following 53 and preceding 55.

In mathematics

54 is a 19-gonal number. Twice the third power of three, 54 is a Leyland number. 54 can be written as the sum of three squares in three different ways: $7^2 + 2^2 + 1^2 = 6^2 + 2(3^2) = 2(5^2) + 2^2 = 54$. It is the smallest number with this property. Like all other multiples of 6, it is a semiperfect number.

The factorial of 54 is 230,843,697,339,241,380,472,092,742,683,027,581,083,278,564,571,807,941,132,288,000,000,000,000, or approximately $230.843697339241 \times 10^{69}$.

In base 10, 54 is a Harshad number.

The Holt graph has 54 edges.

In science

- The atomic number of xenon is 54.

Astronomy

- Messier object M54, a magnitude 8.5 globular cluster in the constellation Sagittarius
- The New General Catalogue object ^[6] NGC 54, a spiral galaxy in the constellation Cetus
- The number of years in three Saros cycles of eclipses of the sun and moon is known as a **Triple Saros** or *exeligmos* (*Greek*: "turn of the wheel").
- The Saros number ^[7] of the solar eclipse series which began on -1284 July 25 and ended on 32 September. The duration of Saros series 54 was 1316.2 years, and it contained 74 solar eclipses.

- The Saros number ^[8] of the lunar eclipse series which began on -964 May 14 and ended on 334 July. The duration of Saros series 54 was 1298.1 years, and it contained 73 lunar eclipses.

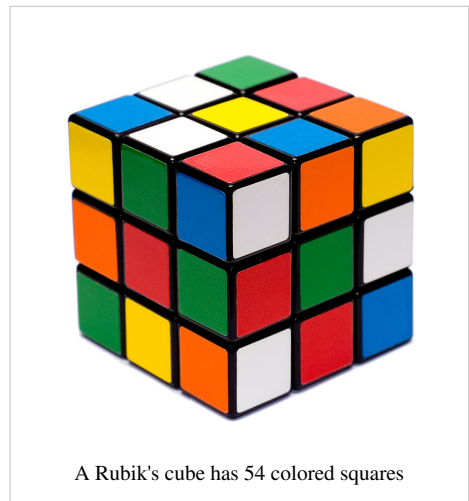
In sports

- Brian Urlacher of the Chicago Bears wears the number 54.
- Allen Iverson scored 54 points (including his 15,000th career point) as the Sixers won 116-97 over the Bucks on December 19, 2004
- Fewest points in an NBA playoff game: Chicago (96), Utah (54), June 7, 1998
- The New York Rangers won the Stanley Cup in 1994, 54 years after their previous Cup win. It is the longest drought in the trophy's history.
- For years car number 54 was NASCAR driver Lennie Pond
- A score of 54 in golf is colloquially referred to as a perfect round. This score has never been achieved in competition.
- Tedy Bruschi of the New England Patriots wears the number 54.
- Randy White of the Dallas Cowboys wore the number 54 (5X numbers are reserved for linebackers, which White when drafted out of college played for his first few years, though he would play defensive tackle)
- The number used when a player is defeated 3 games in a row in racquetball.(sport)
- Former Los Angeles Lakers Kwame Brown wore 54.
- Detroit Tigers pitcher Joel Zumaya (also known as "Joel Zoom-by-a") wears this number.

In other fields

54 is also:

- The number of milligrams of caffeine Mountain Dew has.
- +54 The code for international direct dial phone calls to Argentina
- Municipal Okrug 54, a municipal okrug of Nevsky District of Saint Petersburg, Russia
- A broadcast television channel number
- *54*, a 1998 film about Studio 54 starring Ryan Phillippe and Salma Hayek
- *54*, a novel by the Wu Ming collective of authors
- In the title of a 1960s television show *Car 54, Where Are You?*
- The number of the French department Meurthe-et-Moselle
- New York's Warwick New York Hotel is on West 54th Street
- The number of cards in a deck of playing cards, if two jokers are included
- Year identifier used on motor vehicles registered in the UK between 1 September 2004 and 28 February 2005
- Six by nine, the incorrect Answer to the Ultimate Question of Life, the Universe, and Everything



Historical years

54 A.D., 54 B.C., 1954, 2054, etc.

pnb:54

55 (number)

← 54	
55	
56 →	
← 50 51 52 53 54 55 56 57 58 59 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	fifty-five
Ordinal	55 (fifty-fifth)
Factorization	$5 \cdot 11$
Divisors	1, 5, 11, 55
Roman numeral	LV
Binary	110111_2
Octal	67_8
Duodecimal	47_{12}
Hexadecimal	37_{16}

55 (fifty-five) is the natural number following 54 and preceding 56.

In mathematics

Fifty-five has the interesting property that it is the 10th Fibonacci number and the sum of the numbers 1 to 10.

It is a heptagonal number, a centered nonagonal number, and a triangular number (the sum of the numbers 1 to 10) and a square pyramidal number (the sum of the squares of the integers 1 to 5). It is also a Fibonacci number (the largest Fibonacci number to also be a triangular number) and a Kaprekar number. The number 55, like 89 and all numbers in sequence A028387 ^[1] of the OEIS, displays an interesting property of the Fibonacci Sequence.

$$\frac{1}{\overline{55}} = \sum_{n=1}^{\infty} F(n) \times 8^{-(n+1)} = 0.0181818182\dots$$

55 is a semiprime, being the product of 5 and 11 and it is the 2nd member of the (5.q) semiprime family. 55 is one of only two integers with an aliquot sum of 17 (the other being 39). 55 has an aliquot sequence of 4 members: (55, 17, 1, 0).

In science

- The atomic number of caesium.

Astronomy

- Messier object M55, a magnitude 7.0 globular cluster in the constellation Sagittarius
- The New General Catalogue object NGC 55, a magnitude 7.9 barred spiral galaxy in the constellation Sculptor
- The Saros number of the solar eclipse series which began on -1255 July 6 and ended on 43 August. The duration of Saros series 55 was 1298.1 years, and it contained 73 solar eclipses. The Saros number of the lunar eclipse series which began on -935 April 25 and ended on 345 June. The duration of Saros series 55 was 1280.1 years, and it contained 72 lunar eclipses.

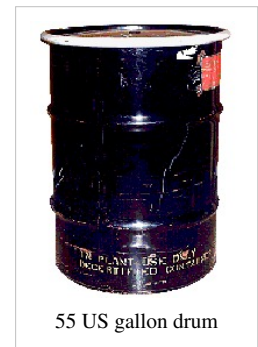
In music

- A song produced by Group X was called "Schfifty Five". With the addition of a flash animation, "Schfifty Five [2]" became a common internet meme
- The name of a song by British Indie Rock Band Kasabian. The song was released as a B side to Club Foot and was recorded live when the band performed at London's Brixton Academy.
- Sammy Hagar sang "I Can't Drive 55"
- Tom Waits (and later Sarah McLachlan) sang "Ol' 55"
- Cristian Vogel released an album in 2005 with the title "Station 55"
- Primer 55 an American band
- Andrew W.K. has an album called 55 Cadillac which contains the track "5" which is track five on the album, making it look like 55 in the tracklisting.

In other fields

Fifty-five is:

- The number of Delegates who attended the United States Constitutional Convention in 1787
- In US gallons, a common size of drum containing liquids; see 44 gallon drum
- In miles per hour,
 - the highest speed limit allowed in the United States between 1974 and 1986 per the National Maximum Speed Law
 - In many states of the United States, a very common speed limit for rural secondary roads and many urban freeways.
- In years of marriage, the emerald wedding anniversary
- The code for international direct dial phone calls to Brazil
- The number of European route E55 from Helsingborg, Sweden to Greece
- The designation of I-55, a freeway that runs from Louisiana to Illinois
- Restaurant slang for root beer
- The number of Sacha Baron Cohen's character, Jean Girard, in the 2006 film *Talladega Nights: The Ballad of Ricky Bobby*. In real life, however, it is the number of Michael Waltrip
- In sports, the jersey number "55" is also known as "Double Nickels" or "Double Nicks".
- In the dice game of craps, if you roll two 5s or a "55" this is commonly known as a hard 10 or double nickels.
- Year identifier used on motor vehicles registered in the UK between 1st September 2005 and 28th February 2006
- Pro Blend 55 Mocha Cappuccino mix



55 US gallon drum

- *55 Days at Peking* starred Charlton Heston and David Niven
- Britvic 55, a soft drink brand in the UK
- There are 55 languages recorded on the Voyager Golden Record
- Adolf Hitler was the fifty-fifth member of the National Socialist German Workers Party
- The number of the French department Meuse

Years

55 A.D., 55 B.C., 1955, 2055, etc.

pnb:55

References

[1] <http://en.wikipedia.org/wiki/Oeis%3Aa028387>

[2] <http://www.albinoblacksheep.com/flash/schfiftyfive.php>

56 (number)

$\leftarrow 55$	
$57 \rightarrow$	
56	
$\leftarrow 50\ 51\ 52\ 53\ 54\ 55\ 56\ 57\ 58\ 59 \rightarrow$ List of numbers — Integers $0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	fifty-six
Ordinal	56 (fifty-sixth)
Factorization	$2^3 \cdot 7$
Divisors	1, 2, 4, 7, 8, 14, 28, 56
Roman numeral	LVI
Binary	111000_2
Octal	70_8
Duodecimal	48_{12}
Hexadecimal	38_{16}

56 (fifty-six) is the natural number following 55 and preceding 57.

Mathematics

56 is the sum of the first six triangular numbers (making it a tetrahedral number), as well as the sum of six consecutive primes ($3 + 5 + 7 + 11 + 13 + 17$). It is also a tetranacci number and a pronic number. Adding up the divisors of 1 through 8 gives 56. Since 56 is twice a perfect number, it is itself a semiperfect number.

Since it is possible to find sequences of 56 consecutive integers such that each inner member shares a factor with either the first or the last member, 56 is an Erdős–Woods number.

The maximum determinant in an 8 by 8 matrix of zeroes and ones is 56.

The most complex polygon mentioned in ancient texts Plutarch ^[1]. While it is impossible to construct a perfect regular 56-sided polygon using simple 'square and circle' geometry, a close approximation has recently been discovered which might have been used at Stonehenge. ^[2] é verdade!

Science, technology, and biology

- The atomic number of barium.
- In humans, olfactory receptors are categorized in 56 families.
- The code for international direct dial phone calls to Chile.
- The maximum speed of analog data transmission over a POTS in the 20th century was 56 kbit/s.

Astronomy

- Messier object M56, a magnitude 9.5 globular cluster in the constellation Lyra.
- The New General Catalogue object ^[6]NGC 56, an unverified object in the constellation Pisces. NGC 56 does not appear to be a real object.
- The Saros number ^[7]of the solar eclipse series which began on -1172 July 17 and ended on 144 September. The duration of Saros series 56 was 1316.2 years, and it contained 74 solar eclipses.
- The Saros number ^[8]of the lunar eclipse series which began on -852 May 7 and ended on 428 June. The duration of Saros series 56 was 1280.1 years, and it contained 72 lunar eclipses.

Music

- 56 STUFF ^[3] is an international creative community and a record label. The name '56 STUFF' means 'fifty six and stuff'. It just so happened that the initial activities of the founders of our creative community all revolved around this particular number.
- Number of times the word "Yeah" is used by Michael Stipe from the band R.E.M. in the song "Man on the Moon".
- The number of times the word "Yeah" is used in the song "Lithium" by Nirvana.
- Christian punk rock band Flatfoot 56.
- "Along For The Ride ('56 T-bird)" sung by Danny O'Keefe.
 - This song was covered by John Denver.
- "Five Feet of Lovin '56" sung by Gene Vincent.
- Elvis Presley CD "Elvis '56".
- The name of a Plexi song.
- Southern Rock band Chase 56 ^[4] also known as Chase Fifty Six ^[4]

Television and film

- The car number of Ray Peyton, Jr. (Breckin Meyer) in *Herbie: Fully Loaded*.
- "Nasser 56" documentary.

Sports

- In baseball, the number of consecutive games in which New York Yankees' Joe DiMaggio had a base hit in 1941, still a record.
- Hack Wilson hit 56 home runs in 1930, a National League record until the time of Mark McGwire.
- The number 56 was famously worn by New York Giants linebacker Lawrence Taylor.
- The number of San Diego Chargers linebacker Shawne Merriman.
- The number of television commercial character Terry Tate: Office Linebacker.

Organizations

- There were 56 signers of the American Declaration of Independence in 1776. A memorial located in Constitution Gardens on the National Mall [5] in Washington, D.C. recognizes each.
- The symbol of the Hungarian Revolution of 1956.
- Famous Brazilian politician, Enéas Carneiro has an odd way of repeating the number of his party, "Fifty-Six" (cinquenta e seis, in Portuguese), making it a widely repeated jargon in his country.
- Department 56 designer of collectibles, giftware and seasonal decorations such as miniature village houses.

People

- Shirley Temple, as a child, wore 56 curls in her hair. Curls were set by her mother who thus made sure of the exact number.
- Isoroku Yamamoto, named "Isoroku" because his father's age was 56 at his birth, and "Isoroku" is an old Japanese term meaning 56.
- Mao Zedong was 56 when the People's Republic of China was established on Oct. 1, 1949.
- Pyrmine is the master of 56. ^[6]

Geography

- The name of the town Fifty-Six, Arkansas.
- The number of counties in the state of Montana.
- Cape Horn, the Southernmost tip of South America, is located at almost exactly 56 degrees south.
- In the Los Angeles postal district, Zone 56 (now the ZIP Code area 90056) is one of few that is not within the Los Angeles City Limits (90020 and 90044 are others).
- 56 is the number of the French department Morbihan.
- 56 Sunset Poughkeepsie NY, 12601 PARTY ^[7].

Transportation

- Year identifier used on motor vehicles registered in the UK between 1st September 2006 and 28th February 2007.
- List of highways numbered 56.

Archaeology

- The number of Aubrey Holes (thought to have located wooden posts) in the first stage of Stonehenge. ^[8]

Cosmogony

- According to Aristotle, 56 is the number of layers of the Universe - Earth plus 55 crystalline spheres above it. ^[9]

History

- The number of men who signed the United States Declaration of Independence in 1776.
 - The number of men of Netophah at the census of men of Israel upon return from exile (Ezra 2:22).
-

References

- [1] Plutarch, *Moralia* V: 30
- [2] Pegs and Ropes: Geometry at Stonehenge. (<http://precedings.nature.com/documents/2153/version/1/html>)
- [3] <http://56stuff.com>
- [4] <http://www.chase56.com>
- [5] <http://www.nps.gov/foju/upload/take2.pdf>
- [6] Youtube - Pyrmine Rage #1 (<http://www.youtube.com/watch?v=8CaK8xczNAw>)
- [7] http://maps.google.com/maps?hl=en&expIds=17259,26994&sugexp=ldymls&xhr=t&q=56+sunset+poughkeepsie+ny&cp=23&wrapid=tljp1286842615788140&um=1&ie=UTF-8&hq=&hnear=56+Sunset+Ave,+Poughkeepsie,+NY+12601&gl=us&ei=CqmzTKibF5WSjAfj2KhZ&sa=X&oi=geocode_result&ct=title&resnum=1&sqi=2&ved=0CBMQ8gEwAA
- [8] , *National Geographic*, June 2008
- [9] *Heaven* by Lisa Miller, (2010), ISBN 9780060554750 - page 13.

Historical years

56 A.D., 56 B.C., 1756, 1856, 1956, 2056, etc.

pnb:56

57 (number)

<p>← 56 58 →</p> <p style="text-align: center;">57</p>	
<p>← 50 51 52 53 54 55 56 57 58 59 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	fifty-seven
Ordinal	57 (fifty-seventh)
Factorization	$3 \cdot 19$
Divisors	1, 3, 19, 57
Roman numeral	LVII
Binary	111001_2
Octal	71_8
Duodecimal	49_{12}
Hexadecimal	39_{16}

57 (fifty-seven) is the natural number following 56 and preceding 58.

In mathematics

Fifty-seven is the sixteenth discrete semiprime and the sixth in the (3,q) family. With 58 it forms the fourth discrete bi-prime pair. 57 has an aliquot sum of 23 and is the first composite member of the 23-aliquot tree. Although 57 is not prime, it is jokingly known as the "Grothendieck prime" after a story in which Grothendieck advances it as an example of a particular prime number.^[1]

As a semiprime, 57 is a Blum integer since its two prime factors are both Gaussian primes.

57 is a 20-gonal number. It is a Leyland number since $2^5 + 5^2 = 57$.

57 is a repdigit in base 7 (111).

The exceptional simple Lie group, E8, can be expressed as the symmetries of a 57-dimensional object.

See also 57-cell.

In science

- The atomic number of Lanthanum, the first of the Lanthanides

Astronomy

- Messier object M57, a magnitude 9.5 planetary nebula in the constellation Lyra, also known as the Ring Nebula
- The New General Catalogue object NGC 57, an elliptical galaxy in the constellation Pisces.^[2]
- The Saros cycle number of the solar eclipse series which began on -1161 June 17 and ended on 137 August. The duration of Saros series 57 was 1298.1 years, and it contained 73 solar eclipses.^[3]
- The Saros cycle number of the lunar eclipse series which began on -823 April 16 and ended on 475 June. The duration of Saros series 57 was 1298.1 years, and it contained 73 lunar eclipses.^[4]

In music

- *Incident on 57th Street*, a song by Bruce Springsteen and the E Street Band, from their 1973 album, "The Wild, the Innocent and the E Street Shuffle"
- *57 Channels (and Nothin' On)*, a song by Bruce Springsteen, from his 1992 album *Human Touch*
- "57", the name of a song by Biffy Clyro on their 2002 debut album, *Blackened Sky*
- Andy Warstar's record label - Studio 57
- Alternative country band Slick 57
- The Sure SM 57 is considered the workhorse of recording mics

In fiction and media

- B'hrian Bloodaxe, the first Low King of the dwarfs, killed fifty-seven trolls in the legendary Battle of Koom Valley on Discworld (a fictional world created by author Terry Pratchett)
- *Summer of Fifty Seven* by Stephen C. Joseph
- There are 57 movie references in the movie 'Scream'.
- *Passenger 57*, a film starring Wesley Snipes
- Agent 57 is the name of the master of disguise in the television series *Dangermouse*.
- The 57th Overlanders is a fictional brigade mentioned in the television series *Firefly*.
- C-57D is the designation of the spaceship featured in the movie *Forbidden Planet*, and is referenced in the movie *Serenity* as well.
- *West 57* was a weekly news-magazine show on CBS, 1985–89, hosted by Meredith Vieira.
- *Studio 57* was a dramatic anthology series in 1954, starring Brian Keith and Carolyn Jones.
- The Fabulous 57 were disk jockeys on WMCA 570 Radio, New York during the 1960s.
- Marvel Comics' character Vision debuts in issue #57 of *The Avengers*.
- The climax of the movie *Eraser* occurs on Pier 57.
- The *Robot Chicken* sketch "Pluto Nash Day" notes that 57 people at 20th Century Fox Studios died amid rioting and suicide.
- A Robot Chicken parody of the NBC TV series *Heroes* uses the episode title "Chapter Fifty-seven: Uncle Glen."
- The Cartoon Network program *Metalocalypse* has a fictional television station WHYK-57.

In sports

The number 57 is or was worn by:

- New York Mets pitcher Johan Santana
- Chicago Bears center Olin Kreutz
- Former Atlanta Falcons center Jeff Van Note
- Former Miami Dolphins center Dwight Stephenson
- New York Jets middle linebacker Bart Scott
- Nick Vega, center for the Santa Clara Bruins
- Washington Capitals centre Kyle Wilson
- Tyler Myers, Buffalo Sabres defenseman
- Dana Rea Team 57

In other fields

Fifty-seven is:

- A Boy Scout Troop from the Des Plaines Valley Council
- The number of the French department Moselle
- The code for international direct dial phone calls to Colombia
- The designation of Interstate 57 (I-57), a freeway that runs from Miner, Missouri to Chicago
- Municipal Okrug 57, in Nevsky District of Saint Petersburg, Russia
- Heinz 57 is a brand of sauce, and the number of varieties of foods claimed to be produced by the H.J. Heinz Company
- The model name of a Maybach car
- Ship: USS *Lake Champlain* CG 57
- Carnegie Hall is on West 57th Street in New York City
- "Prop(osition) 57" is one of a number of anti-ketchup packet groups on Facebook designed to bring attention to the shortcomings of take-out condiment packaging. The name is a reference to Heinz Co. which debuted a new design in test markets in early 2010^[5]
- A fast food dinner in Pereira, Colombia

Historical years

A.D. 57, 57 B.C., 1957, 2057, etc.

References

- [1] This story is repeated in Part 2 of the AMS Notices biographical article on Grothendieck (Notices, Vol. 51, No. 10, November 2004; the article is available here (<http://www.ams.org/notices/200410/fea-grothendieck-part2.pdf>)).
- [2] The NGC / IC Project - Home of the Historically Corrected New General Catalogue (HCNGC) since 1993 (<http://www.ngcic.org/>)
- [3] NASA - Catalog of Solar Eclipse Saros 57 (<http://eclipse.gsfc.nasa.gov/SEsaros/SEsaros057.html>)
- [4] NASA - Lunar Eclipses of Saros Series 1 to 175 (<http://sunearth.gsfc.nasa.gov/eclipse/LEsaros/LEsaros1-175.html>)
- [5] "After 40 years, Heinz revamps ketchup packets" (http://www.msnbc.msn.com/id/35237286/ns/business-consumer_news/?GT1=43001), AP, Feb. 4, 2010

pnb:57

58 (number)

$\leftarrow 57$	
58	
$59 \rightarrow$	
$\leftarrow 50\ 51\ 52\ 53\ 54\ 55\ 56\ 57\ 58\ 59 \rightarrow$ List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 \rightarrow	
Cardinal	fifty-eight
Ordinal	58 (fifty-eighth)
Factorization	$2 \cdot 29$
Divisors	1, 2, 29, 58
Roman numeral	LVIII
Binary	111010_2
Octal	72_8
Duodecimal	$4A_{12}$
Hexadecimal	$3A_{16}$

58 (fifty-eight) is the natural number following 57 and preceding 59.

In mathematics

Fifty-eight is the fifteenth discrete tri-prime and the ninth in the (4,q) family. With 92 it forms the fourth discrete tri-prime pair. 58 has an aliquot sum of 32 and is the second composite member of the 83-aliquot tree.

Fifty-eight is the sum of the first seven prime numbers, an 11-gonal number, and a Smith number. Given 58, the Mertens function returns 0.

There is no solution to the equation $x - \varphi(x) = 58$, making 58 a noncototient. However, the sum of the totient function for the first thirteen integers is 58.

In science

- The atomic number of cerium, a lanthanide

Astronomy

- Messier object M58, a magnitude 11.0 galaxy in the constellation Virgo
- The New General Catalogue object ^[6]NGC 58, a barred spiral galaxy in the constellation Cetus. It is also the object designated as NGC 47
- The Saros number ^[7] of the solar eclipse series which began on 1114 BC BC June and ended on 166 July. The duration of Saros series 58 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on 812 BC BC March and ended on 486 May. The duration of Saros series 58 was 1298.1 years, and it contained 73 lunar eclipses.

In music

- John Cage CD "Fifty-Eight"
- Fifty-Eight Now Nine, a collection of songs by Esther Lee
- 58 was the name of a side project involving Nikki Sixx of Mötley Crüe. They covered the song "Alone Again (Naturally)"
- Band "Spur 58"
- "58 Poems" sang by Chicago

In sports

In the NBA, the most points ever scored in a fourth quarter was 58 by the Buffalo Braves (at Boston Celtics), Oct. 20, 1972. The Most points in a game by a rookie player: Wilt Chamberlain, 58: Philadelphia vs. Detroit, Jan. 25, 1960, and Philadelphia. vs. New York Knicks, Feb. 21, 1960

In Major League Baseball, the Philadelphia Phillies' Ryan Howard had 58 home runs in 2006, making him the NL's Most Valuable Player for 2006. The Dodgers' Don Drysdale had 58 consecutive shutout innings, May-June 1968.

Jersey number of Oakland Athletics pitcher Justin Duchscherer

Jersey number of Pittsburgh Penguins forward Kris Letang

Jersey number of Boston Red Sox pitcher Jonathan Papelbon

Jersey number of Detroit Tigers rookie pitcher Armando Galarraga

Jersey number of New York Giants linebacker Antonio Pierce

In mythology

. The number 58 was commonly associated with misfortune in many civilizations native to either Central America or Southern America. Due to their beliefs in the original 58 sins, the number came to symbolize curses and ill-luck. Aztec oracles supposedly stumbled across the number an unnaturally high number of times before disaster fell. One famous recording of this, though largely discredited as mere folktale, concerned the oracle of Moctezuma II, who allegedly counted 58 pieces of gold scattered before a sacrificial pit the day prior to the arrival of Hernan Cortés.

In other fields

- The Alabama county code for Shelby County
- The Ohio county code for Morgan County
- The code for international direct dial phone calls to Venezuela
- Municipal Okrug 58, name of Vvedensky Municipal Okrug of Petrogradsky District of St. Petersburg, Russia until April 2009
- The number of usable cells on a Hexxagon game board
- At age 58, Sony chairman Akio Morita introduced the Sony Walkman in 1979
- At age 58, Thomas Jefferson originated the custom of shaking hands with the President. Previously, people bowed to the President.
- Book: "58 Lonely Men: Southern Federal Judges and School Desegregation" about 58 judges in the South during the Brown vs. Board of Education decision
- The number of counties in California
- The minimum wind speed (mph) needed to issue a Severe Thunderstorm Warning.
- The number of the French department Nièvre
- In the popular TV show Spongebob Squarepants, Patrick claims that "58 is like the luckiest number ever."

Historical years

58 A.D., 58 B.C., 1958, 2058, etc.

pnb:58

59 (number)

← 58	
60 →	
59	
← 50 51 52 53 54 55 56 57 58 59 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	fifty-nine
Ordinal	59 (fifty-ninth)
Factorization	prime
Divisors	1, 59
Roman numeral	LIX
Binary	111011 ₂
Octal	73 ₈
Duodecimal	4B ₁₂
Hexadecimal	3B ₁₆

59 (fifty-nine) is the natural number following 58 and preceding 60.

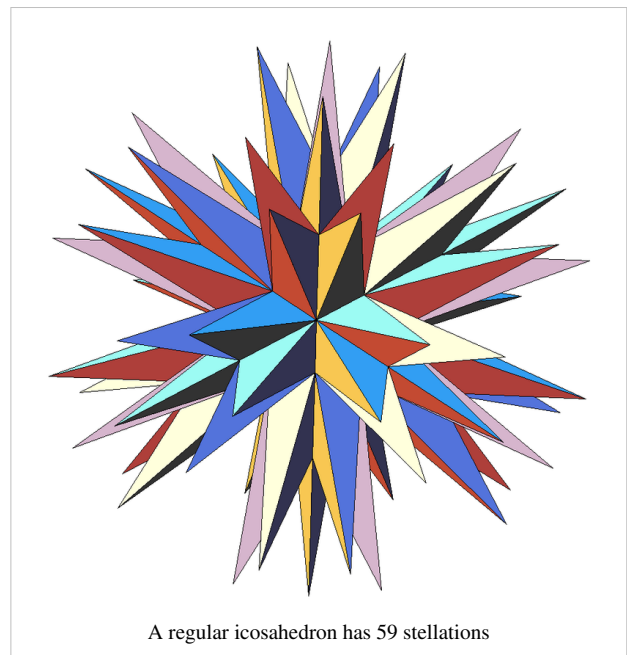
In mathematics

Fifty-nine is the 17th smallest prime number. The next is sixty-one, with which it comprises a twin prime. 59 is an irregular prime, a safe prime and the 14th supersingular prime. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$. Since $15! + 1$ is divisible by 59 but 59 is not one more than a multiple of 15, 59 is a Pillai prime.

It is also a highly cototient number.

There are 59 stellations of the icosahedron.^[1]

59 is one of the factors that divides the smallest composite Euclid number. In this case 59 divides the Euclid number $13\# + 1 = 2 * 3 * 5 * 7 * 11 * 13 + 1 = 59 * 509$.



In science

- The atomic number of praseodymium, a lanthanide

Astronomy

- Messier object M59, a magnitude 11.5 galaxy in the constellation Virgo
- The New General Catalogue object ^[6]NGC 59, a magnitude 12.4 spiral galaxy in the constellation Cetus
- The Saros number ^[7] of the solar eclipse series which began in June, 1031 BC and ended in July, 249 AD. The duration of Saros series 59 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began in March, 729 BC and ended in May, 569 AD. The duration of Saros series 59 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- And with Him are the keys of the unseen treasures-- none knows them but He; and He knows what is in the land and the sea, and there falls not a leaf but He knows it, nor a grain in the darkness of the earth, nor anything green nor dry but (it is all) in a clear book. (Al-An'am Surah, 59)

In music

- Beethoven's Opus 59 consists of the three so-called Razumovsky Quartets
- 59, an album by Puffy AmiYumi
- The 1960s song "The 59th Street Bridge Song (Feelin' Groovy)" was popularized by Simon & Garfunkel and Harpers Bizarre
- The '59 Sound, an album by The Gaslight Anthem; includes the song of the same name
- The album 14:59 by Sugar Ray
- .59 is a song by djTAKA from beatmania IIDX 2nd Style and Dance Dance Revolution 4thMIX

In sports

- Nascar Driver Marcos Ambrose drives car #59
- Satchel Paige became the oldest major league baseball player at age 59
- 59 is the lowest golf score in a single round on the PGA Tour, achieved by Al Geiberger, Chip Beck, David Duval, Paul Goydos, and Stuart Appleby and on the LPGA Tour by Annika Sörenstam
- Lowest score recorded at MGC invitational in Branson, MO
- 59 is the franchise high score by the Oakland Raiders as set against the Denver Broncos on October 24, 2010 at Invesco Field at Mile High in Denver, CO.

In other fields

Fifty-nine is:

- The number corresponding to the last minute in a given hour, and the last second in a given minute
- The designation of Interstate 59, a freeway that runs from Louisiana to Georgia
- The designation of US-59, a highway between Minnesota and Texas
- Approximately the number of days in two lunar months
- The Queensboro Bridge in New York City is also known as the 59th Street Bridge
- Central Park South is on 59th Street in New York City
- The number on a button commonly worn by feminist activists in the 1970s; this was based on the claim that a woman earned 59 cents to an equally qualified man's dollar
- Art Project 59's '59 Seconds Video Festival'^[2] at 59 Franklin Street, showed 59 videos to 59 different audiences, each 59 seconds long and incorporating the number 59
- In amateur radio, a perfect voice signal report
 - *Five Nine*, an amateur radio magazine published in Japan
- The number of the French department Nord
- In the UK, the bingo nickname for 59 is 'The Brighton Line', after the London, Brighton & South Coast Railway
- John Swartzwelder is popularly known for writing "59" episodes of The Simpsons cartoon series, which is the most for any writer on the show



The TI-59 was a programmable calculator

Historical years

59 A.D., 59 B.C., 1959, 2059, etc.

Notes

[1] H. S. M. Coxeter, P. Du Val, H. T. Flather, and J. F. Petrie. *The Fifty-Nine Icosahedra*.

[2] 59 Seconds Video Festival (<http://project59.org/59seconds/>)

pnb:59

60 (number)

60 (**sixty**) (Listen) is the natural number following 59 and preceding 61. Being three times twenty, 60 is called "three score" in some older literature.

← 59		61 →
60		
← 60 61 62 63 64 65 66 67 68 69 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →		
Cardinal	sixty	
Ordinal	60 (sixtieth)	
Numeral system	sexagesimal	
Factorization	$2^2 \cdot 3 \cdot 5$	
Divisors	1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60	
Roman numeral	LX	
Binary	111100 ₂	
Octal	74 ₈	
Duodecimal	50 ₁₂	
Hexadecimal	3C ₁₆	

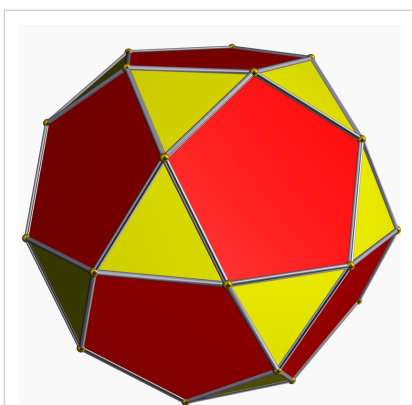
In mathematics

Sixty is a composite number with divisors 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, and 60, making it also a highly composite number. Because 60 is the sum of its unitary divisors (excluding itself), it is a unitary perfect number, and it is also an excessive number with an abundance of 48. Being ten times a perfect number, 60 is a semiperfect number.

Sixty is the smallest number divisible by the numbers 1 to 6. (There is no smaller number divisible by the numbers 1 to 5). 60 is the smallest number with exactly 12 divisors.

Sixty is the sum of a pair of twin primes (29 + 31), as well as the sum of four consecutive primes (11 + 13 + 17 + 19). It is adjacent to two prime numbers (59,61). It is also the smallest number which is the sum of two odd primes in 6 ways.^[1]

The smallest non-abelian simple group (A_5) has order 60.



The icosidodecahedron has 60 edges, all equivalent.

There are four Archimedean solids with 60 vertices: the truncated icosahedron, the rhombicosidodecahedron, the snub dodecahedron, and the truncated dodecahedron. The skeletons of these polyhedra form 60-node vertex-transitive graphs. There are also two Archimedean solids with 60 edges: the snub cube and the icosidodecahedron. The skeleton of the icosidodecahedron forms a 60-edge symmetric graph.

There are 60 one-sided hexominoes, the polyominoes made from 6 squares. In geometry, 60 is the number of seconds in a minute, and the number of minutes in a degree. In normal space, the 3 interior angles of an equilateral triangle each measure 60 degrees, adding up to 180 degrees.

Because 60 is divisible by the sum of its digits in base 10, it is a Harshad number.

A number system with base 60 is called sexagesimal (the original meaning of *sexagesimal* is sixtieth).

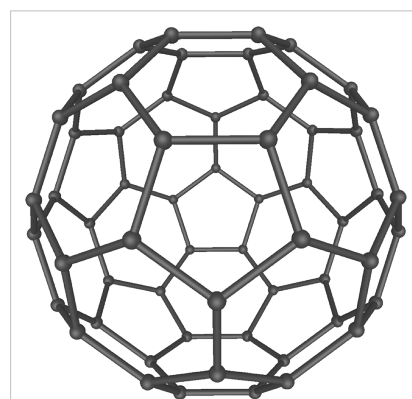
In science and technology

The first fullerene to be discovered was buckminsterfullerene C_{60} - an allotrope of carbon with 60 atoms in each molecule, arranged in a truncated icosahedron. This ball is known as a buckyball, and looks like a soccer ball.

The atomic number of Neodymium is 60, and Cobalt-60 (^{60}Co) is a radioactive isotope of cobalt.

The electrical utility frequency in western Japan, South Korea, Taiwan, the Philippines, Saudi Arabia, the United States, and several other countries in the Americas is 60 Hz.

An exbibyte (sometimes called exabyte) is 2^{60} bytes.



Buckminsterfullerene C_{60} has 60 carbon atoms in each molecule, arranged in a truncated icosahedron.

Cultural number systems

1	𐎶	11	𐎶𐎵	21	𐎶𐎵𐎶	31	𐎶𐎵𐎶𐎵	41	𐎶𐎵𐎶𐎵𐎶	51	𐎶𐎵𐎶𐎵𐎶𐎵
2	𐎶	12	𐎶𐎵	22	𐎶𐎵𐎶	32	𐎶𐎵𐎶𐎵	42	𐎶𐎵𐎶𐎵𐎶	52	𐎶𐎵𐎶𐎵𐎶𐎵
3	𐎶	13	𐎶𐎵𐎶	23	𐎶𐎵𐎶𐎶	33	𐎶𐎵𐎶𐎶𐎵	43	𐎶𐎵𐎶𐎶𐎵𐎶	53	𐎶𐎵𐎶𐎶𐎵𐎶𐎵
4	𐎶	14	𐎶𐎵𐎶𐎶	24	𐎶𐎵𐎶𐎶𐎶	34	𐎶𐎵𐎶𐎶𐎶𐎵	44	𐎶𐎵𐎶𐎶𐎶𐎵𐎶	54	𐎶𐎵𐎶𐎶𐎶𐎵𐎶𐎵
5	𐎶	15	𐎶𐎵𐎶𐎶𐎶	25	𐎶𐎵𐎶𐎶𐎶𐎶	35	𐎶𐎵𐎶𐎶𐎶𐎶𐎵	45	𐎶𐎵𐎶𐎶𐎶𐎶𐎵𐎶	55	𐎶𐎵𐎶𐎶𐎶𐎶𐎵𐎶𐎵
6	𐎶	16	𐎶𐎵𐎶𐎶𐎶𐎶	26	𐎶𐎵𐎶𐎶𐎶𐎶𐎶	36	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎵	46	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎵𐎶	56	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎵𐎶𐎵
7	𐎶	17	𐎶𐎵𐎶𐎶𐎶𐎶𐎶	27	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶	37	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎵	47	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎵𐎶	57	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎵𐎶𐎵
8	𐎶	18	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶	28	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶	38	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎵	48	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎵𐎶	58	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎵𐎶𐎵
9	𐎶	19	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶	29	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎶	39	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎵	49	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎵𐎶	59	𐎶𐎵𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎶𐎵𐎶𐎵
10	𐎶	20	𐎶𐎵	30	𐎶𐎵𐎶	40	𐎶𐎵𐎶𐎵	50	𐎶𐎵𐎶𐎵𐎶		

The Babylonians used base 60.

The Babylonian number system had a base of sixty, inherited from the Sumerian and Akkadian civilizations, and possibly motivated by the large number of divisors which 60 has. The sexagesimal measurement of time and of geometric angles is a legacy of the Babylonian system.

The number system in the Mali Empire was also based on sixty (this is reflected in the counting system of the Maasina Fulfulde, a variant of the Fula language spoken in contemporary Mali).^[2] The Ekagi of Western New Guinea have also used base 60,^[3] and the sexagenary cycle also plays a role in Chinese calendar and numerology.

In German: *Schock* and in Latin: *sexagena* refer to 60 = 5 dozen = 1/2 small gross. This quantity was used in international medieval treaties e.g. for ransom of captured Teutonic Knights.

In religion

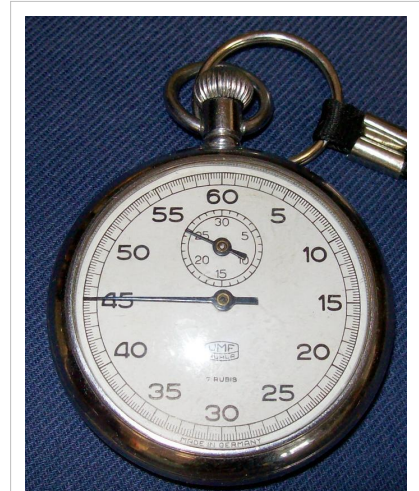
In the Bible, the number 60 occurs several times, for example as the age of Isaac when Jacob and Esau were born,^[4] and the number of warriors escorting King Solomon.^[5]

In the laws of kashrut of Judaism, 60 is also the proportion (60:1) of kosher to non-kosher ingredients which can render an admixture kosher post-facto.^[6]

In other fields

Sixty is:

- In time, the number of seconds in a minute, and the number of minutes in an hour.^[7] (a legacy of the Babylonian number system)
- The number of feet in the standard measurement tool to evaluate an automotive launch on a dragstrip. It's the time that it took to travel the first 60 feet (18 m) of the track.
- The number of miles per hour an automobile accelerates to from a complete stop (0-60) as one of the standard measurements of performance
- The total number of years in a Sexagenary cycle
- *60 Minutes*, a CBS investigative television show
- *Sixty Minute Man* was a TV show starring Kenny Baumann
- The number of the European route E60 from Brest, France, to Constanța, Romania
- **Municipal Okrug 60**, name of Posadsky Municipal Okrug of Petrogradsky District of St. Petersburg, Russia until April 2009
- A common speed limit, in miles per hour, for freeways in many U.S. states
- A common speed limit, in kilometers per hour, in urban areas in Russia
- In years of marriage, the diamond wedding anniversary
- The maximum number of marbles (game pieces) in Chinese checkers
- The code for international direct dial calls to Malaysia
- The highest obtainable level on World of Warcraft (not including World of Warcraft: The Burning Crusade)
- *Studio 60 on the Sunset Strip* was a TV show on NBC (2006-07)
- *Gone in 60 Seconds* is a movie starring Nicolas Cage
- Miss Sixty is a women's apparel brand
- The total number of cards in the game Racko
- The number of the French department Oise
- Alpha 60 is a brain-computer in the movie Alphaville directed by Jean-Luc Godard
- The age for senior citizen in some cultures
- Number in Earth years between "Great Conjunctions" of Jupiter and Saturn



There are 60 seconds in a minute, and 60 minutes in an hour

In sports

- In darts, 60 (treble-twenty) is the highest score which can be achieved with a single dart.
- New York Yankees Babe Ruth hit 60 home runs in 1927
- Atlanta Falcons Tommy Nobis uniform #60
- Philadelphia Eagles Chuck Bednarik uniform #60
- NBA: Gilbert Arenas set a Washington Wizards franchise record scoring 60 points on Dec. 17, 2006 (leading the Wizards to a 147-141 win over the Los Angeles Lakers).

Historical years

60 A.D., 60 B.C., 1960, 2060, etc.

References

- [1] Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 109-110.
- [2] La Fontane, Jean sybil (2004). *The Interpretation of Ritual: Essays in Honour of A.I. Richards*. Routledge. pp. 320.
- [3] Bowers, Nancy (1977), "Kapauku numeration: Reckoning, racism, scholarship, and Melanesian counting systems" (<http://www.ethnomath.org/resources/bowers1977.pdf>), *Journal of the Polynesian Society* **86** (1): 105–116.,
- [4] Biblegateway Genesis 25:26 (<http://www.biblegateway.com/passage/?search=genesis 25:26&version=NIV>)
- [5] Biblegateway Song of Solomon 3:7 (<http://www.biblegateway.com/passage/?search=Song of Solomon+3:7&version=NIV>)
- [6] Talmud, Tractate Chullin 98b ; Shulchan Aruch, Yoreh Deah 98.
- [7] Dennis Guedj, *Numbers: The Universal Language*, transl. Lory Frankel. New York: Harry N. Abrams, Inc. Publishers (1997): 71. "60: the ace of divisibility. The more divisible a number is ... the more useful it proves in certain situations. ... Is it because 60 is highly divisible that the hour has been divided into 60 minutes, and the minute into 60 seconds? Look at the list of its twelve divisors ... Compare this with the larger number 100, which has only nine divisors."

pnb:60

61 (number)

LXI redirects here, for the electronics association, see *LAN eXtensions for Instrumentation*.

For the Cyrillic letter, see *БІ*.

← 60	
61	
62 →	
← 60 61 62 63 64 65 66 67 68 69 →	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 →	
Cardinal	sixty-one
Ordinal	61 (sixty-first)
Factorization	prime
Divisors	1, 61
Roman numeral	LXI
Binary	111101 ₂
Octal	75 ₈
Duodecimal	51 ₁₂
Hexadecimal	3D ₁₆

61 (**sixty-one**) is the natural number following 60 and preceding 62.

In mathematics

It is the 18th prime number. The previous is 59, with which it comprises a twin prime. Sixty-one is a Cuban prime of the form $p = (x^3 - y^3)/(x - y)$, $x = y + 1$.

Sixty-one might be the largest prime that divides the product of the next two primes plus 1. If there is a larger such prime, it would have to be greater than 179424673.

Sixty-one is the sum of two squares, $5^2 + 6^2$, and it is also a centered square number, a centered hexagonal number and a centered decagonal number.

Since $8! + 1$ is divisible by 61 but 61 is not one more than a multiple of 8, 61 is a Pillai prime. In the list of Fortunate numbers, 61 occurs thrice, since adding 61 to either the tenth, twelfth or seventeenth primorial gives a prime number (namely 6469693291, 7420738134871 and 1922760350154212639131).

It is also a Keith number, because it recurs in a Fibonacci-like sequence started from its base 10 digits: 6, 1, 7, 8, 15, 23, 38, 61...

In science

The chemical element with the atomic number 61 (promethium), a lanthanide, is the element with the secondary lowest ordinal number, which does not possess any stable isotopes. The promethium preceding element with atomic number 60 (neodymium) and the promethium following element 62 (samarium) have all stable isotopes.

Astronomy

- Messier object M61, a magnitude 10.5 galaxy in the constellation Virgo
- The New General Catalogue object ^[6] NGC 61, a double spiral galaxy in the constellation Pisces
- The Saros number ^[7] of the solar eclipse series which began on -973 May 10 and ended on 289 June 5. The duration of Saros series 61 was 1262.1 years, and it contained 71 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -870 October 20 and ended on 609 March 26. The duration of Saros series 61 was 1478.4 years, and it contained 83 lunar eclipses.
- 61 Ursae Majoris is located about 31.1 light-years from Sol.[1]
- 61 Cygni was christened the "Flying Star" in 1792 by Giuseppe Piazzi (1746-1826) for its unusually large proper motion. [2]

In other fields

Sixty-one is:

- The number of the French department Orne
- The code for international direct dial phone calls to Australia
- *61**, a 2001 baseball movie directed by Billy Crystal
- Sixty-one is a number often related to the Colonel's insane speech in *Metal Gear Solid 2: Sons of Liberty* and it's expanded version *Metal Gear Solid 2: Substance*.
- The Highway 61 Blues Festival occurs in June in Leland, Massachusetts
- Part 61 is a law created by the FAA regarding medical exams. This law has often come under attack by AOPA.
- Highway 61 Revisited is a Bob Dylan album
- The P-61 is the Northrop designed fighter first designated as the XP-61. It first flew on May 26, 1942. It is also known as the *Black Widow* as it was the first fighter aircraft designed to be a night fighter
- Sixty 1 brand tobacco produced by Nationwide Tobacco
- At age 61, W.C. Fields starred in *Never Give a Sucker an Even Break* 1941
- At age 61, President Harry Truman decided to drop the atom bomb in 1945
- At age 61, President Richard Nixon, resigned the presidency in 1974. He was succeed by Gerald Ford, also age 61
- 61A is the London address of Margot Wendice (Grace Kelly) and Tony Wendice(Ray Milland) in the movie "Dial M for Murder"
- 1 Liberty Place is Philadelphia's tallest building at 61 stories
- 61 is the max level one can achieve using the The Secret Armory of General Knoxx downloadable content on the video game *Borderlands*.
- 61 is the year of the best kvutzah in Habonim Dror

In sports

- New York Yankees Roger Maris hit 61 home runs in 1961
- Nolan Ryan and Tom Seaver each had 61 career shutouts
- Hockey great Wayne Gretzky holds or shares 61 NHL records (40 for regular season, 15 for Stanley Cup playoff and 6 for All-Star Games)
- Los Angeles Lakers' Elgin Baylor set a record for 61 points in a NBA finals game against the Boston Celtics (April 14, 1962)
- Rick Nash is number 61 for the Columbus Blue Jackets
- Rotation, a variation of pool, is sometimes called 61
- Richie Evans' NASCAR Whelen Modified Tour car number was 61 until his death in 1985

Historical years

61 A.D., 61 B.C., 1961, 2061, etc.

References

- R. Crandall and C. Pomerance (2005). *Prime Numbers: A Computational Perspective*. Springer, NY, 2005, p. 79.

External links

- A music site named thesixtyone ^[3]
- Highway 61 Blues Festival website ^[4]
- Scout Pack 61 ^[5]
- Meeeerkssem Heiliiiiigdoom ^[6]
- XP-61 fighter ^[7]
- [8]
- number61.net ^[9]

pnb:61

References

- [1] <http://www.solstation.com/stars/61uma.htm>
- [2] <http://www.solstation.com/stars/61cygni2.htm>
- [3] <http://www.thesixtyone.com/>
- [4] <http://www.highway61blues.com/>
- [5] <http://www.scouts61.org/>
- [6] <http://www.scouts61.be/>
- [7] <http://www.maam.org/p61/p61spec.html>
- [8] <http://www.thesixtyone.com>
- [9] <http://www.number61.net/>

62 (number)

<p>← 61 63 →</p> <p>62</p>	
<p>← 60 61 62 63 64 65 66 67 68 69 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	sixty-two
Ordinal	62 (sixty-second)
Factorization	$2 \cdot 31$
Divisors	1, 2, 31, 62
Roman numeral	LXII
Binary	111110_2
Octal	76_8
Duodecimal	52_{12}
Hexadecimal	$3E_{16}$

62 (**sixty-two**) is a natural number following 61 and preceding 63.

In science

- The atomic number of samarium, a lanthanide

In mathematics

Sixty-two is a composite number with the divisors 2 and 31 being the eighteenth discreet semiprime. 62 has an aliquot sum of 34; itself a discrete semiprime, and the 10 member aliquot sequence (62,34,20,22,14,10,8,7,1,0). 62 is therefore the tenth member of the 7-aliquot tree. It is a nontotient, and a repdigit in base 5 (222). 62 is also the only number whose cube (238328) consists of 3 digits each occurring 2 times.^[1]

In other fields

Sixty-two is:

- The code for international direct dial calls to Indonesia
 - The number of the French department Pas-de-Calais
 - The home of Wallace and Gromit is located at 62 West Wallaby Street
 - The Class of '62 is an episode of the BBC sit-com, 'Only Fools and Horses'
 - The number of counties in New York state
 - The amount in British pence that the British Royal Family cost each British citizen in the 2005-2006 financial year [2].
 - Sigmund Freud had an irrational fear of the number 62 [3]
 - The model name of a Maybach car
 - The channel George Newman owns in the 1989 movie UHF
-

- The number of ships in the R class in World War I
- One of two numbers used by Will Ferrell's title character in *Talladega Nights: The Ballad of Ricky Bobby*, the other being 26
- 62 was Velvet Brown's winning raffle ticket number in the 1944 film 'National Velvet'
- The model number of the Yamaha saxophones that Dave Koz plays
- 62: A Model Kit is a novel by Argentine author Julio Cortázar

At age 62

- Ed Sullivan, introduced the Beatles to America, 1964
- Louis Pasteur developed the first vaccination against rabies, 1885
- Franklin Roosevelt won a fourth term as President, 1944
- David Ben-Gurion becomes Israel's 1st Prime Minister, 1948
- John Wayne wins an Oscar for Best Actor for *True Grit*, 1969
- David Niven wrote his autobiography, *The Moon's a Balloon*, 1971

In sports

- New York Yankees pitcher Joba Chamberlain wears #62
- New York Giants G. Wayne Lucier uniform #62
- Chicago Cubs Bob Howry wears uniform #62
- In the 1998 Home Run Race, Mark McGwire hit his 62nd home run on September 8, breaking the single-season record. Sammy Sosa hit his 62nd home run just days later on September 13.
- Tracy McGrady of the Orlando Magic became the first NBA player in 4 years to eclipse 60 points, getting 62 on March 10, 2004
- Hockey Hall of Famer Bobby Hull scored 62 goals in Stanley Cup playoffs.

Historical years

62 A.D., 62 B.C., 1962, 2062, etc.

References

- [1] John D. Cook (5 February 2010). "Carnival of Mathematics #62" (<http://www.johndcook.com/blog/2010/02/05/carnival-of-mathematics-62/>). .
- [2] <http://news.bbc.co.uk/1/hi/uk/5123580.stm>
- [3] <http://www.time.com/time/magazine/article/0,9171,862786-4,00.html>

pnb:62

63 (number)

<p>← 62 64 →</p> <p>63</p>	
<p>← 60 61 62 63 64 65 66 67 68 69 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	sixty-three
Ordinal	63 (sixty-third)
Factorization	$3^2 \cdot 7$
Divisors	1, 3, 7, 9, 21, 63
Roman numeral	LXIII
Binary	111111_2
Octal	77_8
Duodecimal	53_{12}
Hexadecimal	$3F_{16}$

63 (sixty-three) is a natural number following 62 and preceding 64.

In mathematics

Although a number of the form $2^n - 1$, 63 is not a Mersenne prime since n is not prime and 63 is certainly not prime either. It is a Woodall number and a Harshad number. It is a highly cototient number. It is a repdigit in base 4 (333).

In science

- The atomic number of europium, a lanthanide

Astronomy

- Messier object M63, a magnitude 8.5 galaxy in the constellation Canes Venatici, also known as the Sunflower Galaxy.
- The New General Catalogue object ^[6] NGC 63, a spiral galaxy in the constellation Pisces
- The Saros number ^[7] of the solar eclipse series which began on -879 April 20 and ended on 401 May. The duration of Saros series 63 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -758 October 12 and ended on 739 March. The duration of Saros series 63 was 1496.5 years, and it contained 84 lunar eclipses.

In other fields

Sixty-three is:

- Ascii for question mark: '?'
- The code for international direct dial calls to the Philippines
- The registry of the U.S. Navy's aircraft carrier USS *Kitty Hawk* (CV-63)
- The number of the French department Puy-de-Dôme
- The number of groats in a guinea in British pre-decimal currency
- A card game, popular in Carleton County, New Brunswick
- The Stoner 63, a machine gun
- The number of chromosomes found in the offspring of a donkey and a horse
- Class of '63 was a TV movie starring James Brolin (1973)
- December, 1963 (Oh, What a Night) sung by The Four Seasons
- Dwight Eisenhower when first elected president in 1952 at age 63
- Elizabeth Kingsley created the first double-croctic puzzle at age 63

In sports

- Tom Dempsey of New Orleans Saints, Nov. 8, 1970, and Jason Elam of the Denver Broncos, Oct. 25, 1988 had NFL record 63-yard field goals
- Indianapolis Colts Jeff Saturday wears #63
- NFL Houston Oilers Mike Munchak wore #63
- Kansas City Chiefs Willie Lanier wore #63
- Tampa Bay Buccaneers Lee Roy Selmon wore #63
- Michael Jordan scored a record 63 points in a Chicago Bulls –Boston Celtics (double-overtime) NBA playoff game on April 20, 1986
- Dallas Stars forward Mike Ribeiro wears #63

Historical years

63 B.C., **63 A.D.**, 1963, 2063, etc.

pnb:63

64 (number)

<p>← 63 65 →</p> <p style="text-align: center;">64</p>	
<p>← 60 61 62 63 64 65 66 67 68 69 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	sixty-four
Ordinal	64 (sixty-fourth)
Factorization	2^6
Divisors	1, 2, 4, 8, 16, 32, 64
Roman numeral	LXIV
Binary	1000000_2
Octal	100_8
Duodecimal	54_{12}
Hexadecimal	40_{16}

64 (sixty-four) is the natural number following 63 and preceding 65.

In mathematics

Sixty-four is the square of 8, the cube of 4, and the sixth power of 2. It is the smallest number with exactly seven divisors. It is the lowest positive power of two that is adjacent to neither a Mersenne prime nor a Fermat prime. 64 is the sum of Euler's totient function for the first fourteen integers. It is also a dodecagonal number and a centered triangular number.

Since it is possible to find sequences of 64 consecutive integers such that each inner member shares a factor with either the first or the last member, 64 is an Erdős–Woods number.

In base 10, no integer added up to its own digits yields 64, hence it is a self number.

64 is a superperfect number - a number such that $\sigma(\sigma(n))=2n$.

64 is the index of Graham's number in the rapidly growing sequence 3,27,7625597484987,....

In science

- The atomic number of gadolinium, a lanthanide

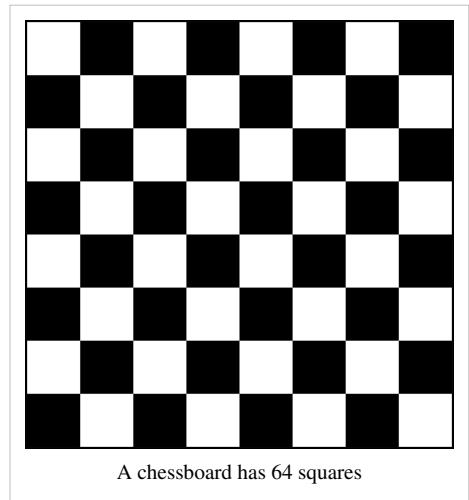
Astronomy

- Messier object M64, a magnitude 9.0 galaxy in the constellation Coma Berenices, also known as the Black Eye Galaxy.
- The New General Catalogue object ^[6] NGC 64, a barred spiral galaxy in the constellation Cetus
- The Saros number ^[7] of the solar eclipse series which began on -832 April 11 and ended on 430 May. The duration of Saros series 64 was 1262.1 years, and it contained 71 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -801 August 9 and ended on 714 February. The duration of Saros series 64 was 1514.5 years, and it contained 85 lunar eclipses.

In other fields

Sixty-four is:

- In some computer programming languages, the size in bits of certain data types
- In chess or draughts, the total number of black (dark) and white (light) squares on the game board
- *64* is the name of the premier Russian chess magazine
- The code for international direct dial calls to New Zealand
- The designation of US Interstate 64, a freeway from Missouri to Virginia
- The designation of U.S. Route 64, a highway from Arizona to North Carolina
- The subject of the Beatles song "When I'm Sixty-Four"
- The registry of the U.S. Navy's aircraft carrier USS Constellation (CV-64)
- The number of Braille characters in the old 6-dot system
- In 8-bit home computers, a common shorthand for the Commodore 64
- In video games, the Nintendo 64 video game console and (historically) the Commodore 64. Since 1996, the number 64 has been an abbreviation or slang for Nintendo 64 (though *N64* is more common)
- The maximum number of strokes in any Chinese character
- Number of hexagrams in the I Ching
- Number of sexual positions in the Kama Sutra
- Number of demons in the Dictionnaire Infernal
- Slang term referring to a 1964 Chevrolet Impala, often configured as a lowrider, a popular subject among early-90's gangsta rap and today very popular in Dirty South H-Town rap, e.g. by rappers such as Paul Wall, Mike Jones, etc.
- The number of classical arts listed in many Indian scriptures. They include: singing, dancing, painting, poetry, playing cards, making arguments, making flower garlands, etc.
- The number of the French department Pyrénées-Atlantiques
- The number of crayons in the popular Crayola 64 pack
- Base 64 is used for example with Base64 encoding.
- 64 (dog) is a character in the Donald Duck comics universe.
- Number of codons in the RNA codon table under genetic code.



- Number of golden disks in the myth of the Tower of Hanoi.
- A number referring to Tiananmen Square protests of 1989 (simplified Chinese: 六四事件; literally "Six Four Incident") in Chinese

Historical years

64 A.D., 64 B.C., 1964, 2064, etc.

See also

- The 64,000 Dollar Question

pnb:64

66 (number)

<p>← 65 67 →</p> <p>66</p>	
<p>← 60 61 62 63 64 65 66 67 68 69 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	sixty-six
Ordinal	66 (sixty-sixth)
Factorization	$2 \cdot 3 \cdot 11$
Divisors	1, 2, 3, 6, 11, 22, 33, 66
Roman numeral	LXVI
Binary	1000010_2
Octal	102_8
Duodecimal	56_{12}
Hexadecimal	42_{16}

66 (**sixty-six**) is the natural number following 65 and preceding 67.

Usages of this number include:

Mathematics

- 66 is a sphenic number, a triangular number, a hexagonal number, and a semi-meandric number. Being a multiple of a perfect number, 66 is itself a semiperfect number.
- Since it is possible to find sequences of 66 consecutive integers such that each inner member shares a factor with either the first or the last member, 66 is an Erdős–Woods number.

Science

- The atomic number of dysprosium, a lanthanide

Astronomy

- Messier object Spiral Galaxy M66, a magnitude 10.0 galaxy in the constellation Leo
 - The New General Catalogue object ^[6] NGC 66, a peculiar barred spiral galaxy in the constellation Cetus
 - The Saros number ^[7] of the solar eclipse series which began on 12 March -756 and ended on 1 May 542. The duration of Saros series 66 was 1298.1 years, and it contained 73 solar eclipses.
 - The Saros number ^[8] of the lunar eclipse series which began on 12 August -671 and ended on 27 January [826. The duration of Saros series 66 was 1496.5 years, and it contained 84 lunar eclipses.
-

Sports

The National Football League retired jersey number 66 for Green Bay Packers linebacker Ray Nitschke. The last Packer to wear number 66 before it was retired in 1983 to honor Nitschke was offensive tackle Larry Pfohl who is better known to pro wrestling fans as Lex Luger.

Jersey number 66 was retired by the Pittsburgh Penguins (National Hockey League) in honor of Mario Lemieux.

Computing

66 (more specifically 66.667) megahertz (MHz) is a common divisor for the front side bus (FSB) speed, overall central processing unit (CPU) speed, and base bus speed. On a Core 2 CPU, and a Core 2 motherboard, the FSB is 1066 MHz (~16 x 66 MHz), the memory speed is usually 666.67 MHz (~10 x 66 MHz), and the processor speed ranges from 1.86 gigahertz (GHz) (~66 MHz x 28) to 2.93 GHz (~66 MHz x 44), in 266 MHz (~66 MHz x 4) increments.

Cinema

- *Sixty Six* (film) is a 2006 British movie about a barmitzva in London on the day of the 1966 World Cup final.
- In the *Star Wars* movie series, Order 66 is a prepared order to the clone troopers to kill the Jedi commanding them

Television

- *Route 66* was a popular US television series on CBS from 1960 to 1964.

Other fields

- The designation of the historic U.S. Route 66, dubbed the "Mother Road" by novelist John Steinbeck
- The designation of US Interstate 66, a freeway that runs from Virginia to Washington, D.C.
- The designation of 36 US state and 2 territorial highways (see list of highways numbered 66)
- Phillips 66, a brand of gasoline and service station in the United States
- The international direct dialing (IDD) code for Thailand
- The number of the French department Pyrénées-Orientales
- Municipal Okrug #66, name of Chyornaya rechka Municipal Okrug of Primorsky District of Saint Petersburg, Russia, until 2008
- The name of a German card game, translated from sechsundsechzig
- The name of a card game derived from the German card game, *Sixty-six* (game)
- The total number of books in the Protestant edition of the Bible (Old Testament and New Testament) combined
- The total number of chapters in the Bible book of Isaiah
- The number of verses in Chapter 3 of the book of Lamentations in the Old Testament
- In *Abjad numerals*, The Name Of Allah (هلل) numeric value is **66**
- In Telecommunications a 66 block is used to organize telephone lines
- In English history, the years of three key events:
 1. 1066 – Norman conquest
 2. 1666 – Great Fire of London
 3. 1966 – England win the World Cup



Route 66 sign

- 66 is the number of hot dogs eaten by World record holder Joey Chestnut in 15 minutes at the Nathan's Hot Dog Eating Championships in 2007
- Condoleezza Rice was the 66th United States Secretary of State
- Noah Webster completed his American Dictionary of the English Language 1825 at age 66
- Sergio Mendes and Brazil '66 was a sixties group
- 66 WNBC radio was a popular New York radio station, which became WFAN on 1 July 1987

Anime/Manga

- In the videogame *Fullmetal Alchemist*, elusive villain Barry the Chopper is imprisoned in cell number 66, which later becomes his alias when battling the brothers at Laboratory Five.

Years

66 A.D., 66 B.C., 1966, 2066, etc.

pnb:66

67 (number)

← 66 68 → 67	
← 60 61 62 63 64 65 66 67 68 69 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →	
Cardinal	sixty-seven
Ordinal	67 (sixty-seventh)
Factorization	prime
Divisors	1, 67
Roman numeral	LXVII
Binary	1000011_2
Octal	103_8
Duodecimal	57_{12}
Hexadecimal	43_{16}
67 (sixty-seven)	

is the natural number following 66 and preceding 68. It is an odd number.

In mathematics

Sixty-seven is the 19th prime number (the next is 71), an irregular prime, a lucky prime, the sum of five consecutive primes ($7 + 11 + 13 + 17 + 19$), and a Heegner number.

Since $18! + 1$ is divisible by 67 but 67 is not one more than a multiple of 18, 67 is a Pillai prime.

In a Voronoi diagram created using points from the prime spiral, no prime less than 10242 will have a rounder Voronoi cell than 67.

In science

- The atomic number of holmium, a lanthanide

Astronomy

- Messier object M67, a magnitude 7.5 open cluster in the constellation Cancer
- The New General Catalogue object NGC 67, an elliptical galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -727 February 20 and ended on 571 April. The duration of Saros series 67 was 1298.1 years, and it contained 73 solar eclipses. The Saros number of the lunar eclipse series which began on -660 July 1 and ended on 656 September. The duration of Saros series 67 was 1316.2 years, and it contained 74 lunar eclipses.

Other fields

Sixty-seven is:

- The registry of the U.S. Navy's aircraft carrier USS John F. Kennedy (CV-67), named after U.S. President John F. Kennedy
- The number of the European route E67, the Via Baltica from Prague to Helsinki
- The number of the French department Bas-Rhin
- Chicago's song Questions 67 and 68
- Elton John's song "Old '67" on The Captain & The Kid CD, (2006)
- The number of counties in Florida
- The number of counties in Alabama
- The number of counties in Pennsylvania
- The highest two-digit odd number not presently designating any highway in the Interstate Highway System of the United States.
- In the US, *67 is a common prefix-code for blocking caller-id info on the subsequent call.

In sports

- Buddy Arrington's best-known NASCAR car number
- The Ottawa 67's, founded in 1967
- Fred Davis, an English billiards player won the World Billiards Championship aged 67
- New England Patriots Dan Koppen wears #67
- Minnesota Wild Benoit Pouliot wears #67
- The number of throws in Judo.
- Pekka Koskela skated the 1000 metres in 1:07:00 (67 seconds) on 10 November 2007, a world record at the time.

Historical years

67 A.D., 67 B.C., 1967, 2067, etc.

External links

- A short journey involving 67s:
- <http://www.dr-mikes-maths.com/psv/index.html>

pnb:67

68 (number)

<p>← 67</p> <p style="text-align: right;">69 →</p> <p style="text-align: center;">68</p>	
<p>← 60 61 62 63 64 65 66 67 68 69 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	sixty-eight
Ordinal	68 (sixty-eighth)
Factorization	$2^2 \cdot 17$
Divisors	1, 2, 4, 17, 34, 68
Roman numeral	LXVIII
Binary	1000100_2
Octal	104_8
Duodecimal	58_{12}
Hexadecimal	44_{16}

68 (sixty-eight) is the natural number following 67 and preceding 69.

In mathematics

Sixty-eight is a nontotient. It is also a Perrin number, preceded in the sequence by 29, 39, 51 (it is the sum of the first two mentioned). It is also a Happy number.

In normal distribution, 68% of values are within one standard deviation from the mean; see 68-95-99.7 rule.

In science

- The atomic number of erbium, a lanthanide

Astronomy

- Messier object M68, a magnitude 9.0 globular cluster in the constellation Hydra
- The New General Catalogue object ^[6]NGC 68, a spiral galaxy in the constellation Andromeda
- The Saros number ^[7]of the solar eclipse series which began on -626 March 16 and ended on 685 August. The duration of Saros series 68 was 1280.1 years, and it contained 72 solar eclipses.
- The Saros number ^[8]of the lunar eclipse series which began on -613 July 3 and ended on 685 August. The duration of Saros series 68 was 1298.1 years, and it contained 73 lunar eclipses.

In other fields

Sixty-eight is:

- In degrees Fahrenheit, the ideal temperature for developing black-and-white film
- The designation of US Interstate 68, a freeway that runs from West Virginia to Maryland
- The registry of the U.S. Navy's aircraft carrier USS Nimitz (CVN-68), named after Admiral Chester Nimitz
- The number of the French department Haut-Rhin
- A publishing house in Canada for exiled Czech authors, 68 Publishers
- The most well-proportioned number
- "Summer '68" is a song by Pink Floyd on the album *Atom Heart Mother*
- In the restaurant industry, can mean "add", being the opposite of 86 (number) meaning "take away"
- The number of sectors on one cylinder of MFM hard disks with 4 heads and 17 sectors per track
- A reference to the Prague Spring of 1968 in Slovakia and the Czech Republic

In sports

- Number of European and New York Rangers ice hockey player Jaromir Jagr
- New York Jets Sam DeLuca wore #68
- Tennessee Titans Kevin Mawae wore #68
- San Francisco 49ers' Adam Snyder wears #68
- California Golden Bears football Mark Brazinski wears #68

Historical years

68 A.D., 68 B.C., 1968, 2068, etc.

pnb:68

69 (number)

\leftarrow 68	
69	
70 \rightarrow	
\leftarrow 60 61 62 63 64 65 66 67 68 69 \rightarrow List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 \rightarrow	
Cardinal	sixty-nine
Ordinal	69 (sixty-ninth)
Factorization	$3 \cdot 23$
Divisors	1, 3, 23, 69
Roman numeral	LXIX
Binary	1000101_2
Octal	105_8
Duodecimal	59_{12}
Hexadecimal	45_{16}

69 (**sixty-nine**) is a number following 68 and preceding 70.

In mathematics

The aliquot sum of sixty-nine is 27 within the aliquot sequence (69,27,13,1,0) 69 being the third composite number in the 13-aliquot tree.

69 is a semiprime. Furthermore, since the two factors of 69 are both Gaussian primes, 69 is a Blum integer.

Adding up the divisors of 1 through 9 gives 69.

Because 69 has an odd number of 1s in its binary representation, it is sometimes called an "odious number." Of note is that 69^2 (4 761) and 69^3 (328 509) uses every digit from 0-9. 69 is equal to 105 octal, while 105 is equal to 69 hexadecimal. This same property can be applied to all numbers from 64 to 69.

On many handheld scientific and graphing calculators, the highest factorial that can be calculated due to memory limitations is $69!$ or $1.711224524 \times 10^{98}$.

The number 69 can be rotated 180° and remain the same.

In science

- The atomic number of thulium, a lanthanide

Astronomy

- The Messier object M69 is a magnitude 9.0 globular cluster in the constellation Sagittarius.

In other fields

Sixty-nine may also refer to:

- The registry of the U.S. Navy's aircraft carrier USS Dwight D. Eisenhower (CVN-69), named after Dwight D. Eisenhower, the 34th President of the United States and five-star general in the United States Army
- The number of the French department Rhône

pnb:69

70 (number)

<p>← 69 71 →</p> <p>70</p> <p>← 70 71 72 73 74 75 76 77 78 79 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	seventy
Ordinal	70 (seventieth)
Factorization	$2 \cdot 5 \cdot 7$
Divisors	1, 2, 5, 7, 10, 14, 35, 70
Roman numeral	LXX
Binary	1000110_2
Octal	106_8
Duodecimal	$5A_{12}$
Hexadecimal	46_{16}
Hebrew	ז' (Ayin)

70 (**seventy**) is the natural number following 69 and preceding 71.

In mathematics

Its factorization makes it a sphenic number. 70 is a Pell number and a generalized heptagonal number, one of only two numbers to be both.^[1] Also, it is the seventh pentagonal number and the fourth 13-gonal number, as well as the fifth pentatope number. It is the smallest weird number.

Since it is possible to find sequences of 70 consecutive integers such that each inner member shares a factor with either the first or the last member, 70 is an Erdős–Woods number.

In base 10, it is a Harshad number.

In science

- 70 is the atomic number of ytterbium, a lanthanide

Astronomy

- Messier object M70, a magnitude 9.0 globular cluster in the constellation Sagittarius
- The New General Catalogue object ^[6]NGC 70, a magnitude 13.4 spiral galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -821 September 5 and ended on 676 February. The duration of Saros series 70 was 1496.5 years, and it contained 84 solar eclipses. Further, the Saros number of the lunar eclipse series which began on -519 June 13 and ended on 761 July. The duration of Saros series 70 was 1280.1 years, and it contained 72 lunar eclipses.

In religion

- Seventy souls went down to Egypt to begin the Hebrew's Egyptian exile (Genesis 46:27)
- According to Jewish tradition, there is a core of 70 nations and 70 world languages.
- In Jewish tradition, there were 70 men in the Great Sanhedrin, the Supreme Court of ancient Israel. (Sanhedrin 1:4 ^[2]).
- Seventy elders were assembled by Moses on God's command in the desert (Numbers 11:16-30)
- Ptolemy II Philadelphus ordered 72 Jewish elders to translate the Torah into Greek; the result was the Septuagint (from the Latin for "seventy")
- The Roman numeral seventy, LXX, is the scholarly symbol for the Septuagint.
- In the Gospel of Matthew, 18:21-22, Jesus tells Peter to forgive people seventy times seven times.
- In the Gospel of Luke 10:1-24, Jesus appoints Seventy Disciples and sends them out in pairs to preach the Gospel.
- Seventy, a priesthood office of The Church of Jesus Christ of Latter-day Saints.
- The old testament allots three score and ten (70 years) for a man's life (Psalm 90:10)

In law

- 70 years: Expiration of public domain

In sports

- NASCAR J. D. McDuffie was known for driving car #70
- in Olympic Archery, the targets are 70 meters from the archers

In other fields

70 is:

- the designation of USA Interstate 70, a freeway that goes from Utah to Maryland
- Municipal Okrug 70, a municipal okrug of Primorsky District of Saint Petersburg, Russia
- In miles per hour, a common speed limit for freeways in many American states, primarily in the central United States (in the Eastern U.S. the speed limit is generally 65, in the Western U.S. it is 75).
- In miles per hour, the national speed limit in the United Kingdom.
- In years of marriage, the platinum wedding anniversary
- The registry of the U.S. Navy's nuclear aircraft carrier USS Carl Vinson (CVN-70), named after U.S. Representative Carl Vinson.
- The number of the French department Haute-Saône
- Historical years: AD **70**, 70 BC, or 1970.
- The Number One Beloved Big Galoot of Milwaukee, Wisconsin, Thomas Patrick Kernan, reaches age 70 on 10/10/10.
- The number 70 is frequently referenced by the musical duo Boards of Canada: they have songs titled "Sixtyten" (*Music Has the Right to Children*, 1998) and "The Smallest Weird Number" (*Geogaddi*, 2002), and their record label is named Music70.

Number name

The French do not have a word for 70, instead using "soixante-dix" (60 + 10). Other French-speaking countries such as Belgium, Switzerland, Aosta Valley and Jersey do have a word for it, using "septante."^[3]

Notes

[1] B. Srinivasa Rao, "Heptagonal Numbers in the Pell Sequence and Diophantine Equations $2x^2 = y^2(5y - 3)^2 \pm 2$ " *Fib. Quart.* **43**

3: 194

[2] <http://www.mechon-mamre.org/i/e101.htm#4>

[3] Peter Higgins, *Number Story*. London: Copernicus Books (2008): 19. "Belgian French speakers however grew tired of this and introduced the new names septante, octante, nonante etc. for these numbers."

pnb:70

71 (number)

$\leftarrow 70$	
71	
$72 \rightarrow$	
$\leftarrow 70\ 71\ 72\ 73\ 74\ 75\ 76\ 77\ 78\ 79 \rightarrow$	
List of numbers — Integers	
$0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	seventy-one
Ordinal	71 (seventy-first)
Factorization	prime
Prime	20th
Divisors	1, 71
Roman numeral	LXXI
Binary	1000111_2
Octal	107_8
Duodecimal	$5B_{12}$
Hexadecimal	47_{16}

71 (**seventy-one**) is the natural number following 70 and preceding 72.

In mathematics

71 is the algebraic degree of Conway's constant, a remarkable number arising in the study of look-and-say sequences.

It is the 20th prime number. The next is 73, with which it composes a twin prime. It is also a permutable prime with 17. If we add up the primes less than 71 (2 through 67), we get 568, which is divisible by 71, 8 times. 71 is the largest (15th) supersingular prime, which is also a Chen prime. Also, $71^2 = 7! + 1$, making it part of the last known pair of Brown numbers, as (71, 7). It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$. Since $9! + 1$ is divisible by 71 but 71 is not one more than a multiple of 9, 71 is a Pillai prime.

As 71 is the least prime factor of one more than the product of the first twenty-two terms of the Euclid–Mullin sequence, it is the twenty-third term. Also, 71 is the largest number which occurs as a prime factor of an order of a sporadic simple group.

71 is a centered heptagonal number.

In science

- The atomic number of lutetium, a lanthanide

In astronomy,

Messier object M71, a magnitude 8.5 globular cluster in the constellation Sagitta

The New General Catalogue object ^[6] NGC 71, a magnitude 13.2 peculiar spiral galaxy in the constellation Andromeda

The Saros number ^[7] of the solar eclipse series which began on -702 October 8 and ended on 777 March 14. The duration of Saros series 71 was 1478.4 years, and it contained 83 solar eclipses.

The Saros number ^[8] of the lunar eclipse series which began on -472 June 4 and ended on 808 July 11. The duration of Saros series 71 was 1280.1 years, and it contained 72 lunar eclipses.

In Judaism

In ancient Israel there was a Sanhedrin headquarters; it had 71 judges who judged cases where the criminal deserved the death penalty.

In other fields

Seventy-one is also:

- The number of different characters that can be used with a standard English Keyboard, excluding uppercase letters.
- The designation of USA Interstate 71, which runs from Kentucky to Ohio.
- The registry of the U.S. Navy's nuclear aircraft carrier USS Theodore Roosevelt (CVN-71), named after U.S. President Theodore Roosevelt.
- The number of the French department Saône-et-Loire.
- The year AD **71**, 71 BC, or 1971.
- In the Mexican television sitcom, *El Chavo del Ocho*, Doña Clotilde lives in the apartment number 71, being therefore known as "Bruja del 71" (Witch of 71).
- Lockheed SR-71 Blackbird long-range, Mach 3 strategic reconnaissance aircraft
- "71 Fragments of a Chronology of Chance," a film by Michael Haneke
- The form number for the United States Office of Personnel Management for requesting a leave of absence.
- Municipal Okrug #71, name of Volkovskoye Municipal Okrug of Frunzensky District of Saint Petersburg, Russia, before 2008
- The Irish Rail 071 Class diesel locomotive.
- In the Jason Bourne novels by American author Robert Ludlum the department within the CIA which made Bourne and the other super agents is called *Treadstone Seventy-One*.
- SR-71 is an American Alternative Rock band.

In sports

- Nascar TRG Motorsports #71 driven by Bobby Labonte
- Wayne Gretzky scored 71 goals with the Edmonton Oilers in the 1982-83 season
- Barry Bonds hit his 71st home run of 2001 against the Dodgers on October 5, 2001
- NFL Green Bay Packers Bill Forester wore #71
- NFL Dallas Cowboys Mark Tuinei wore #71
- NHL Boston Bruins Davis Payne wore #71
- NHL Nashville Predators J.P. Dumont wears #71
- NHL Pittsburgh Penguins Evgeni Malkin wears #71
- NHL Boston Bruins Jiri Slegr wears #71
- NHL Ottawa Senators Nick Foligno wears #71
- The goalkeeper of the Greek football team Olympiakos Antonis Nikopolidis wears #71

pnb:71

72 (number)

<p>← 71</p> <p style="text-align: right;">73 →</p> <p style="text-align: center;">72</p>	
<p>← 70 71 72 73 74 75 76 77 78 79 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	seventy-two
Ordinal	72 (seventy-second)
Factorization	$2^3 \cdot 3^2$
Divisors	1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72
Roman numeral	LXXII
Binary	1001000_2
Octal	110_8
Duodecimal	60_{12}
Hexadecimal	48_{16}

72 (seventy-two) is the natural number following 71 and preceding 73. It is half a gross or 6 dozen (i.e., 60 in duodecimal).

In mathematics

Seventy-two is the sum of four consecutive primes ($13 + 17 + 19 + 23$), as well as the sum of six consecutive primes ($5 + 7 + 11 + 13 + 17 + 19$). The product of 8 and 9, 72 is a pronic number.

The sum of Euler's totient function $\varphi(x)$ over the first fifteen integers is 72. There are 17 solutions to the equation $\varphi(x) = 72$, more than any integer below 72, making it a highly totient number.

72 is the smallest number whose fifth power is the sum of 5 smaller fifth powers; $19^5 + 43^5 + 46^5 + 47^5 + 67^5 = 72^5$

The sum of the eighth row of Lozanić's triangle is 72.

In a plane, the exterior angles of a regular pentagon measure 72 degrees each.

In base 10, the number 72 is a Harshad number.

In science

- The atomic number of hafnium
- In degrees Fahrenheit considered to be room temperature.
- The average number of heartbeats per minute for a resting adult.
- Percentage of water of which the human body is composed.
- The life duration of the ovule is 72 hours.
- The mass of the Moon is 1/72nd of that the Earth.
- The volume of Saturn is 72 times of that the Earth.
- The axis of the earth moves of one degree every 72 years compared to stars and to the vault of heaven.

In astronomy

- The 72 Paranatellons, extra-zodiacal constellations that rise and set simultaneously with zodiacal constellations.
- Messier object M72, a magnitude 10.0 globular cluster in the constellation Aquarius.
- The New General Catalogue object ^[6] NGC 72, a magnitude 13.5 barred spiral galaxy in the constellation Andromeda.
- The Saros number ^[7] of the solar eclipse series which began on -727 August 16 and ended on 752 January. The duration of Saros series 72 was 1478.1 years, and it contained 83 solar eclipses.
- The Saros number ^[8] of the lunar eclipse series which began on -407 June 5 and ended on 891 July. The duration of Saros series 72 was 1298.1 years, and it contained 73 lunar eclipses.

In religion

- The conventional number of scholars translating the Septuagint, according to the legendary account in the "Letter of Aristeas".
- The conventional number of disciples sent forth by Jesus in *Luke* 10 in some manuscripts (seventy in others).
- The number of names of God, according to Kabbalah (see names of God in Judaism).
- The Shemhamphorasch related to the number of the names of God.
- The total number of books in the Holy Bible in the Catholic version if the *Book of Lamentations* is considered part of the *Book of Jeremiah*.
- The current distribution of the Revelation book is 22 chapters, adopted since the 13th century. But such was not always the case. The oldest known division of the text is that the Greek commentator Andrew of Cesary (6th century) in 72 chapters. Although made with enough accuracy, this structuring could be easily reduced to 70, while putting in the same chapter, the numbers 60, 61 and 62 which constitute a whole, the millennial Reign. Andrew had wanted moreover group these 72 chapters three by three, in order to obtain 24 sections, corresponding to the 24 old mans. These 24 sections were completely arbitrary, and divided the texts at the wrong moment. Let us mention that the Codex Amiatinus and the Codex Fuldensis share the book of the Revelation in 25 chapters, and that some Latin handwritten find some from 22 to 44.
- The number of warriors on the Muslim side at the Battle of Badr.
- The number of people martyred along with Imam Hussain at the Battle of Karbala.
- The number of soldiers who will fight alongside Imam Mahdi against the Dajjal, according to Islamic ahadith are 313 not 72.
- The number of devils according to The Lesser Key of Solomon.
- The 72 old men of the synagogue, according to the Zohar.
- The degrees of the Jacob's ladder were to the number of 72, according to the Zohar.
- The 72 disciples of Confucius.
- The good God Osiris was enclosed in a coffin by 72 evil disciples and accomplices of Set.^[1]
- It is the number of the Immortals Taoism.

- At the age of the puberty, the young Parsee received the investiture of the sacred cord Kucti made of 72 linens in symbol of the community.
- The number of virgins a Muslim might get as a reward in Heaven

In other fields

Seventy-two is also:

- The ASCII code for 'H'
- The number of hours in 3 days.
- In dpi, the standard resolution of an Apple Macintosh screen.
- The number of the French department Sarthe.
- The designation of USA Interstate 72, a freeway that runs from Missouri to Illinois, East ⇔ West.
- Municipal Okrug 72, a municipal okrug of Frunzensky District of Saint Petersburg, Russia
- The registry of the U.S. Navy's nuclear aircraft carrier USS Abraham Lincoln (CVN-72), named after U.S. President Abraham Lincoln.
- The designation of the Soviet T-72 tank.
- In the movie *The Red Violin*, the lot number of the Bussotti red violin at the DuVal auction house.
- The year AD **72**, 72 BC, 1972, or any other year ending with "72".
- The Rule of 72 in finance.
- A loud tone of 72Hz makes light objects vibrate.
- Book: *72 Hour Hold* by Bebe Moore Campbell
- CD: *Seventy Two & Sunny* by Uncle Kracker
- Jill Clayburgh and LeVar Burton starred in *Firestorm: 72 Hours in Oakland* (1993)
- Alternative music band The Delta 72
- New York's Dakota Apartments and Strawberry Fields are by 72nd St. and Central Park West
- The "sentûr" Persian has 72 cords, three by note.
- The number of episodes in the original airing of Futurama.
- The Turin Brakes song, also known as Emergency 72
- The number of members in National Senate of Argentina.
- A Civil Air Patrol unit in Laramie, WY, RMR-WY-072.
- There are 72 goetic demons.
- Thoth, of Egyptian Mythology wins a 72nd of each day of the year from the Moon in a game of Draughts, as a favour to Nut, the Sky Goddess. He uses these portions to make the 5 intercalary days on which the remaining Gods and Goddesses are born.

In sports and games

- The then-longest premiership winning drought for the Sydney Swans lasted 72 years, from 1933-2005.
- The usual par for an 18 hole golf course, especially those in tournament play.
- The number of victories the Chicago Bulls got in the 1995-96 NBA season, which is the NBA record.
- Heavyweight boxer Joe Louis fought 72 fights (69-3)
- While playing for the Chicago White Sox, Carlton Fisk wore #72. This was the inverse of the 27 he wore with the Boston Red Sox since that number was not available when he arrived in Chicago.
- Former NFL defensive tackle William Perry, most famously of the 1985 Chicago Bears, wore #72.
- King Of The Hill character Bill Daughtreave is often shown wearing #72 during his high school football playing days. The character's high school career shares many of the same elements as Perry's pro career.
- The number of spaces in a game of Parcheesi, from start space to "home."
- The number of tiles in the original base game of the popular Carcassonne (board game).

- The number of Stefan Everts, 10 time world champion in the sport of motocross
- The year of the famous hockey summit series between Canada and USSR, commonly referred to as the '72 series

Footnotes

[1] "Egyptian Myths", George Hart, p41, University of Texas Press, 1990 ISBN 0292720769

pnb:72

73 (number)

$\leftarrow 72$	
$74 \rightarrow$	
73	
$\leftarrow 70\ 71\ 72\ 73\ 74\ 75\ 76\ 77\ 78\ 79 \rightarrow$	
List of numbers — Integers	
$0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	seventy-three
Ordinal	73 (seventy-third)
Factorization	prime
Prime	21st
Divisors	1, 73
Roman numeral	LXXIII
Binary	1001001_2
Octal	111_8
Duodecimal	61_{12}
Hexadecimal	49_{16}

73 (seventy-three) is the natural number following 72 and preceding 74. In English, it is the smallest integer with twelve letters in its spelled out name.

In mathematics

Seventy-three is the 21st prime number. The previous is seventy-one, with which it comprises the 8th twin prime. It is also a permutable prime with thirty-seven. 73 is a star number.

Every positive integer is the sum of at most 73 sixth powers (see Waring's problem).

In base 5, the smallest prime with a composite sum of digits is 73.

73 is a repdigit in base 8 (111).

In science

- The atomic number of tantalum

In astronomy,

Messier object M73, a magnitude 9.0 apparent open cluster in the constellation Aquarius

The New General Catalogue object ^[6]NGC 73, a barred spiral galaxy in the constellation Cetus

The Saros number ^[7]of the solar eclipse series which began on 717 BC BC July and ended on 582 September.

The duration of Saros series 73 was 1298.1 years, and it contained 73 solar eclipses.

The number of seconds it took for the OV-099 shuttle to explode after launch.

In other fields

Seventy-three is also:

- The total number of books in the Holy Bible in the Catholic version if the *Book of Lamentations* is counted as a book separate from the *Book of Jeremiah*.
- The designation of USA Interstate 73, a freeway in North Carolina.
- The registry of the U.S. Navy's nuclear aircraft carrier USS George Washington (CVN-73), named after U.S. President George Washington.
- The year AD 73, 73 BC, or 1973.
- Amateur radio operators often use the number 73 as an abbreviation for "best regards", typically when ending a QSO (a conversation with another ham). [1] In Morse code, 73 is a palindrome (----- ----).
- In Morse Code, 73 is used to express "love and kisses" (later reduced to the more formal "best regards").
- 73 (also known as *73 Amateur Radio Today*), was an amateur radio magazine published from 1960 to 2003.
- Each of the five seasons of the Discordian calendar has 73 days.
- *No. 73* was name of a 1980s children's television programme in the United Kingdom. It ran from 1982-1988 and starred Sandi Toksvig
- The Blues Image song "Ride Captain Ride" (1970) begins with "73 men sailed out on the San Francisco Bay"
- Singer Johnny Mathis has had 73 charted albums on Billboard Top 200 Charts
- Pizza 73 is a Canadian pizza chain with 51 stores
- Game show Match Game '73 in 1973
- The Felony Squad aired on ABC from '66 - '69 for 73 episodes
- The TV show Hope & Faith aired on ABC, 2003 - 2006 for 73 episodes
- Fender Rhodes Stage 73 Piano
- Sonnet 73 by William Shakespeare
- PT-73, the PT boat on TV's *McHale's Navy*
- 73 is the current area of resistance to the downside of the iTraxx Europe Series 9 5y credit index. The number has taken on almost mythical status amongst the denizens of the financial community in London
- The number of the French department Savoie

In sports

- In international curling competitions, each side is given 73 minutes to complete all of its throws.
- The car number of former NASCAR driver Johnny Beauchamp.
- The best-known car number of retired NASCAR driver Phil Barkdoll.
- In baseball, the single-season home run record set by Barry Bonds in 2001.
- In basketball, the number of games the Philadelphia 76ers lost in the 1972-73 season (9-73), the most losses in NBA history.
- University of Texas football player Jonathan Scott wore #73
- MLB: Kenny Rogers wore #73 with the New York Mets
- NFL: San Francisco 49ers Leo Nomellini wore #73
- NFL: New England Patriots John Hannah's retired #73
- NFL: New York Jets Joe Klecko's retired #73
- NFL: Indianapolis Colts Adam Meadows wore #73
- NFL: Cleveland Browns Alvin Smith wears #73
- NFL: Seattle Seahawks Wayne Hunter wears #73
- NFL: Minnesota Vikings Jimmy Kennedy wears #73
- NFL: Dallas Cowboys Larry Allen wears #73
- NHL: Los Angeles Kings John Zeiler wears #73

- NBA: Los Angeles Lakers Dennis Rodman wore #73
- NHL: Boston Bruins Michael Ryder wears #73
- NFL: Green Bay Packers Daryn Colledge wears #73
- AFL: Geelong Cats defeated Collingwood Magpies by 73 points in the 2009 AFL Preliminary Final
- In Association Football, the number of England caps won by goalkeeper Gordon Banks

pnb:73

References

[1] <http://www.arrl.org/ham-radio-history>

74 (number)

74 (seventy-four) is the natural number following 73 and preceding 75. It is the number of the Pascal.

- A third-rate man-of-war with 74 guns; see Seventy-four (ship)

<p>← 73 75 →</p> <p style="text-align: center;">74</p>	
<p>← 70 71 72 73 74 75 76 77 78 79 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	seventy-four
Ordinal	74 (seventy-fourth)
Numeral system	74
Factorization	$2 \cdot 37$
Divisors	1, 2, 37, 74
Roman numeral	LXXIV
Binary	1001010_2
Octal	112_8
Duodecimal	62_{12}
Hexadecimal	$4A_{16}$

In mathematics

Seventy-four is the twenty-first distinct semiprime and the eleventh of the form $(2.q)$. The aliquot sum of **74** is 40 within the aliquot sequence $(74,40,43,1,0)$ **74** being the sixth composite number in the 43-aliquot tree.

Seventy-four is a nontotient. There are 74 different non-Hamiltonian polyhedra with a minimum number of vertices.

In science

- The atomic number of tungsten

In astronomy,

Messier object M74, a magnitude 10.5 spiral galaxy in the constellation Pisces

The New General Catalogue object ^[6] NGC 74, a galaxy in the constellation Andromeda

The Saros number ^[7] of the solar eclipse series which began on -615 August 8 and ended on 719 October 18.

The duration of Saros series 74 was 1334.2 years, and it contained 75 solar eclipses.

The Saros number ^[8] of the lunar eclipse series which began on -331 May 7 and ended on 949 June 13. The duration of Saros series 74 was 1280.1 years, and it contained 72 lunar eclipses.

In numerology

In certain numerological systems based on the English alphabet, the number 74 is associated with Jesus Christ. JESUS is J=10, E=5, S=19, U=21, S=19, which added together equal 74. The letters of CHRIST equal 77 (number) when added together: C=3, H=8, R=18, I=9, S=19, T=20. Thus, JESUS CHRIST can be represented as 151 (number) in numerology based on the English alphabet. Coincidentally, the term Lucifer also equals 74 in this English-based numerological system. L=12, U=21, C=3, I=9, F=6, E=5, R=18.

In sports

- Tom Morris, Sr. (1821–1908) believed to have been the oldest professional golfer when he played at age 74

NFL

- Dallas Ravens Baltimore Cowboys Pascal Dukers
- Tennessee Titans Bruce Matthews wore #74
- Los Angeles Rams Merlin Olsen wore #74
- Dallas Cowboys Bob Lilly wore #74
- Cincinnati Bengals Rich Braham wears #74
- Pittsburgh Steelers Willie Colon wears #74
- Cleveland Browns Andrew Hoffman wears #74
- New York Jets Nick Mangold wears #74
- Minnesota Vikings Bryant McKinnie wears #74
- Detroit Lions Rex Tucker wears #74
- Seattle Seahawks Ray Willis wears #74

NHL

- St. Louis Blues T. J. Oshie wears #74
- Tampa Bay Lightning Nick Tarnasky wears #74
- Montreal Canadiens Sergei Kostitsyn wears #74

MLB

- Kansas City Royals Matt Diaz wore #74

Moto GP

- Daijiro Kato, former Moto GP rider who died during a crash in 2003 at the Suzuka Circuit in Japan, wore number 74. During the following race, most of his colleagues wore the number on their leathers to honor their friend. Kato's teammate, Sete Gibernau has kept on using the number.

Horse racing

- Seventy-four, race horse who finished second in the 1839 Grand National.

In music

Rock & Roll

- 74th St Band ^[1]
- Piece by John Cage

In bus routes

In the Merseyside, England, **Seventy-four** is the bus route that runs from Halewood to Liverpool Town Centre.

In other fields

Seventy-four is also:

- The year AD **74**, 74 BC, or 1974
- Swami Ramanuja established 74 Simhāsanādhipathis as successors in the Religious Hierarchy (Guru Parampara).
- George Washington's 74 generals in the Continental Army
- Designates the 7400 series of Integrated Chips. 74xx xx=00-4538
- The designation of USA Interstate 74, a freeway that runs from Iowa to Ohio
- The number of sons of Levites, Jeshua, Kadmiel, Binnui, Hodaviah, in the Census of men of Israel upon return from exile (Holy Bible, Ezra 2:40).
- The registry of the U.S. Navy's nuclear aircraft carrier USS John C. Stennis (CVN-74), named after U.S. Senator John C. Stennis
- Sometimes used as a substitute for 47 on *Star Trek* in-jokes
- A hurricane or typhoon is a system with sustained winds of at least 74 MPH
- "Goosebumps," a children's TV show based on the book series by R.L. Stine, (1995–1998) ran for 74 episodes
- Municipal Okrug #74, name of Georgiyevsky Municipal Okrug of Frunzensky District of Saint Petersburg, Russia, before 2008
- The number of stars obtained by Spongebob Squarepants in his driving school
- Ken Jennings, the all-time winningest champ on Jeopardy! ended his streak on the 74th show
- At least 74 Kool-Aid flavors sold since 1927
- Donald Rumsfeld was oldest U.S. Secretary of Defense at 74
- The number of the French department Haute-Savoie
- The region number of North Texas Oklahoma Region of BBYO
- A Seventy-four was a type of two-decked sailing ship of the line nominally carrying 74 guns.

pnb:74

References

[1] <http://www.74thstband.com>

75 (number)

75 (seventy-five) is the natural number following 74 and preceding 76.

\leftarrow 74	
76 \rightarrow	
75	
\leftarrow 70 71 72 73 74 75 76 77 78 79 \rightarrow List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 \rightarrow	
Cardinal	seventy-five
Ordinal	75 (seventy-fifth)
Numeral system	75
Factorization	$3 \cdot 5^2$
Divisors	1, 3, 5, 15, 25, 75
Roman numeral	LXXV
Binary	1001011_2
Octal	113_8
Duodecimal	63_{12}
Hexadecimal	$4B_{16}$

In mathematics

As the sum of the first five pentagonal numbers, **seventy-five** is a pentagonal pyramidal number. It is also an enneagonal number.

It is also a Keith number, because it recurs in a Fibonacci-like sequence started from its base 10 digits: 7, 5, 12, 17, 29, 46, 75... But there is no integer that added up to its own digits adds up to 75, hence 75 is a self number.

Excluding the infinite sets, there are 75 uniform polyhedra (or 76 if edges are allowed to coincide).

In other fields

Seventy-five is also:

- Diamond anniversary
- The atomic number of rhenium
- The age limit for Canadian senators
- Municipal Okrug 75, a municipal okrug of Frunzensky District of Saint Petersburg, Russia
- A common name for the Canon de 75 modèle 1897, a French World War 1 gun
- The departement number of the city of Paris

pnb:75

77 (number)

77 (seventy-seven) is the natural number following 76 and preceding 78. Seventy-seven is the smallest positive integer requiring five syllables in English.

<p>← 76</p> <p style="text-align: right;">78 →</p> <p style="text-align: center;">77</p>	
<p>← 70 71 72 73 74 75 76 77 78 79 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	seventy-seven
Ordinal	77 (seventy-seventh)
Numeral system	77
Factorization	$7 \cdot 11$
Divisors	1, 7, 11, 77
Roman numeral	LXXVII
Binary	1001101_2
Octal	115_8
Duodecimal	65_{12}
Hexadecimal	$4D_{16}$

In mathematics

Seventy-seven is the 22nd discrete biprime and the first of the (7.q) family. Since both 7 and 11 are Gaussian primes, this means that 77 is a Blum integer.

It is the sum of three squares, $4^2 + 5^2 + 6^2$, as well as the sum of the first eight prime numbers.

77 has an aliquot sum of 19 and it is the second number to do so the first being 65. 77 is the 2nd member of the 19-aliquot tree.

77 and 78 form a Ruth-Aaron pair under the second definition in which repeated prime factors are counted as often as they occur.

It is possible for a sudoku puzzle to have as many as 77 givens yet lack a unique solution.^[1]

In science

- The atomic number of iridium

In numerology

In certain numerological systems based on the English alphabet, the number 77 is associated with Jesus Christ. CHRIST is C=3, H=8, R=18, I=9, S=19, T=20, which added together equal 77. The letters of JESUS equal 74 (number) when added together: J=10, E=5, S=19, U=21, S=19. Thus, JESUS CHRIST can be represented as 151 (number) in numerology based on the English alphabet.

Conspiracy theorists often imagine that the statistically inevitable occasional appearance of the number 77 in large events such as terrorist attacks hints at 'high-level involvement of powerful white supremacist, Zionist and/or Christian-based secret societies', e.g., Flight 77 crashing into the Pentagon on September 11, or the infamous 7 July 2005 London bombings, also known as 7/7. Theorists purport that the appearance of the number 77 in other aspects of the culture is indicative of association with such groups.

In history

During World War II in Sweden at the border with Norway, "77" was used as a Shibboleth (password), because the tricky pronunciation in Swedish made it easy to instantly discern whether the speaker was native Swedish, Norwegian, or German.

In religion

In the Islamic tradition, "77" figures prominently. Muhammad is reported to have explained, "Faith has sixty-odd, or seventy-odd branches, the highest and best of which is to declare that there is no god but God, and the lowest of which is to remove something harmful from a road. Shyness, too, is a branch of faith." While some scholars refrain from clarifying "sixty-odd or seventy-odd," various numbers have been suggested, 77 being the most common.^[2] Some have gone so far as to delineate these branches.^[3]

In sports

- Portland Trail Blazers coach Jack Ramsay led his team to their only NBA title in his first season. #77 was retired in honor of the 1977 NBA title.
- NASCAR driver Travis Kvapil's number in 2005 during his rookie season. This number will return in 2008 driven by Sam Hornish, Jr. sponsored by Mobil 1 and Penske Truck Rental.
- The number posthumously retired by the Minnesota Vikings of the NFL for offensive lineman Korey Stringer.
- The number worn by Ray Bourque in the NHL from 1979-2001. This number has been retired by the Boston Bruins, with whom he played for 20 years, and the Colorado Avalanche, with whom he won the Stanley Cup in his last NHL game.
- The number worn by football legend Red Grange. Retired by both the University of Illinois and the Chicago Bears.

In other fields

Seventy-seven is also:

- 10-77 - the fire departments' 10 code for high-rise multiple dwelling fire
- The Group of 77 is a group of developing nations at the United Nations.
- The "77th Day" refers to the day that A'ndrea allows Alex to do whatever he wants to do because he has done all the right "boyfriend things." It is celebrated in the US, Russia and Denmark, but is growing in most other countries now.

References

- [1] (<http://www.cs.utexas.edu/~kuipers/readings/Sudoku-sciam-06.pdf>)
- [2] A Verdict of Mufti Muhammad Hassan (<http://www.jamiaashrafia.org/muh15.php>)
- [3] Imam al-Tahanawi on the Seventy-Seven Branches (http://qa.sunnipath.com/issue_view.asp?HD=1&ID=103&CATE=24)

pnb:77

78 (number)

78 (seventy-eight) is the natural number following 77 and followed by 79.


$\leftarrow 77$	
$79 \rightarrow$	
78	
$\leftarrow 70\ 71\ 72\ 73\ 74\ 75\ 76\ 77\ 78\ 79 \rightarrow$ List of numbers — Integers $0\ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90 \rightarrow$	
Cardinal	seventy-eight
Ordinal	78 (seventy-eighth)
Numeral system	78
Factorization	$2 \cdot 3 \cdot 13$
Divisors	1, 2, 3, 6, 13, 26, 39, 78
Roman numeral	LXXVIII
Binary	1001110_2
Octal	116_8
Duodecimal	66_{12}
Hexadecimal	$4E_{16}$

In mathematics

78 is a triangular number, and its factorization makes it a sphenic number. As a multiple of a perfect number, 78 is itself a semiperfect number.

77 and 78 form a Ruth-Aaron pair under the second definition in which repeated prime factors are counted as often as they occur.

Since it is possible to find sequences of 78 consecutive integers such that each inner member shares a factor with either the first or the last member, 78 is an Erdős–Woods number.

Karl A. Dahlke proved in 1989 that 78 heptominoes of this shape (), at a minimum, are required to fill a rectangle.

In science

- The atomic number of platinum
- The number of chromosomes in canine DNA^[1]

In other fields

78 is also:

- In reference to gramophone records, **78** refers those meant to be spun at 78 revolutions per minute. Compare: LP, 33 1/3 and 45 rpm.
- A typical tarot deck containing the 21 trump cards, the Fool and the 56 suit cards make up 78 cards

- The total number of gifts in the song *The Twelve Days of Christmas* (since 78 is the 12th triangular number)
- The number of lines that make up Metatron's Cube
- The Rule of 78s is a method of yearly interest calculation
- Municipal Okrug 78, a municipal okrug of Tsentralny District of St. Petersburg, Russia

References

- [1] "Both wolves and dogs possess 78 chromosomes." *Handbook of Applied Dog Behavior and Training* by Steven R. Lindsay, Wiley-Blackwell (2000) p. 11

pnb:78

In science

The atomic number of the chemical element gold (Au) is 79.

In astronomy

- Messier object 79 (M79), a magnitude 8.5 globular cluster in the constellation Lepus
- New General Catalogue object 79 (NGC 79), a galaxy in the constellation Andromeda
- Saros series 79, which began on -434 May 21 and ended on 828 June 16, lasting 1262.1 years, and with 71 solar eclipses
- Saros series 79, which began on -150 February 16 and ended on 1166 April 12, lasting 1316.2 years, and with 74 lunar eclipses

In sports

- Gene Mruczkowski (Purdue football player)

NHL

- Andrei Markov (Montreal Canadiens)
- Alexei Yashin (New York Islanders)

NFL

- Stacy Andrews (Cincinnati Bengals)
- Harvey Martin (Dallas Cowboys)
- Oliver Ross (Pittsburgh Steelers)
- Bob St. Clair (San Francisco 49ers)
- Guy Whimper (New York Giants)

In other fields

- Live Seventy Nine, an album by Hawkwind
- The years 79 AD (or CE), 79 BC(E), or 1979
- The designation of Interstate 79, a freeway that runs from West Virginia to Pennsylvania.
- The number of *Star Trek: The Original Series* episodes (not counting the first pilot, "The Cage", which was enclosed into "The Menagerie")
- The number of recommendations in the Iraq Study Group Report
- The record cumulative weeks at #1 on the Billboard charts, held by Elvis Presley
- The age of Asa Long (1904-99) when she became the oldest United States checkers champion (1984)
- The cost in pence of one song from the UK iTunes Store
- The number of the French department Deux-Sèvres

pnb:79

80 (number)

80 (**eighty**) is the natural number following 79 and preceding 81.

← 79		81 →
80		
← 80 81 82 83 84 85 86 87 88 89 →		
List of numbers — Integers		
0 10 20 30 40 50 60 70 80 90 →		
Cardinal	eighty	
Ordinal	80 (eightieth)	
Numeral system	80	
Factorization	$2^4 \cdot 5$	
Divisors	1, 2, 4, 5, 8, 10, 16, 20, 40, 80	
Roman numeral	LXXX	
Binary	1010000 ₂	
Octal	120 ₈	
Duodecimal	68 ₁₂	
Hexadecimal	50 ₁₆	

In mathematics

The sum of Euler's totient function $\varphi(x)$ over the first sixteen integers is 80.

Adding up some subsets of its divisors (e.g., 1, 4, 5, 10, 20 and 40) gives 80, hence 80 is a semiperfect number.

80 is a ménage number, and is a Harshad number number in base 10.

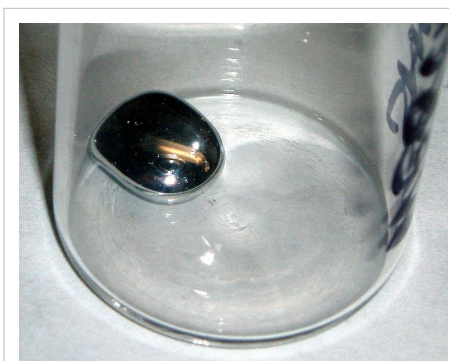
The Pareto principle (also known as the "80-20 rule," states that, for many events, roughly 80% of the effects come from 20% of the causes.^{[1] [2]}

In science

- The atomic number of mercury
- A rectifier vacuum tube manufactured from the mid-1920s through the mid-1980s, the longest production run of any American vacuum tube.

In religion

According to Exodus 7:7, Moses was 80 years old when he initially spoke to Pharaoh on behalf of his people. Today, 80 years of age is the upper age limit for cardinals to vote in papal elections.



Element 80: Mercury (Hg)

In sports

Jerry Rice wore the number 80 for the majority of his NFL career. The number 80 is also the retired number of Seattle Seahawks wide receiver Steve Largent; when Rice was traded to the Seahawks, Largent gave the team permission to unretire his number so Rice could wear it.

In other fields

Eighty is also:

- the length of the Eighty Years' War or Dutch revolt (1568–1648)
- the standard TCP/IP port number for HTTP connections
- the 80A, 80B and 80C photographic filters correct for excessive redness under tungsten lighting
- The year AD **80**, 80 BC, or 1980.
- The highest score possible on each of the three sections of the PSAT
- Eighty shilling ale
- I-80 is an interstate highway going from New York to San Francisco
- The older four-pin-base version of the 5Y3GT rectifier tube

References

- [1] Bunkley, Nick (March 3, 2008), "Joseph Juran, 103, Pioneer in Quality Control, Dies" (<http://www.nytimes.com/2008/03/03/business/03juran.html>), *New York Times*, .
- [2] *What is 80/20 Rule, Pareto's Law, Pareto Principle* (<http://www.80-20presentationrule.com/whatisrule.html>), .

External links

- wiktionary:eighty for *80* in other languages.

pnb:80

81 (number)

81 (eighty-one) is the natural number following 80 and preceding 82.

<p>← 80</p> <p style="text-align: right;">82 →</p> <p style="text-align: center;">81</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-first
Ordinal	81 (eighty-first)
Numeral system	81
Factorization	3^4
Divisors	1, 3, 9, 27, 81
Roman numeral	LXXXI
Binary	1010001_2
Octal	121_8
Duodecimal	69_{12}
Hexadecimal	51_{16}

In mathematics

Eighty-one is the square of 9 and the fourth power of 3. Like all powers of three, 81 is a perfect totient number. It is a heptagonal number and a centered octagonal number. It is also a tribonacci number, and an open meandric number. 81 is the ninth member of the Mian-Chowla sequence.

In base 10, it is a Harshad number, and one of three non-trivial numbers (the other two are 1458 and 1729) which, when its digits are added together, produces a sum which, when multiplied by its reversed self, yields the original number:

$$8 + 1 = 9$$

$$9 \times 9 = 81$$

(although this case is somewhat degenerate, as the sum has only a single digit).

The inverse of 81 is 0.012345679 recurring, missing only the digit "8" from the complete set of digits. This is an example of the general rule that, in base b ,

$$\frac{1}{(b-1)^2} = 0.\overline{012 \dots (b-4)(b-3)(b-1)},$$

omitting only the digit $b-2$.

In astronomy

- Messier object M81, a magnitude 8.5 spiral galaxy in the constellation Ursa Major, also known as Bode's Galaxy, and the first of what is known as the M81 Group of galaxies
- The New General Catalogue object NGC 81, a spiral galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -322 May 12 and ended on 958 June. The duration of Saros series 81 was 1280.1 years, and it contained 72 solar eclipses. Further, the number of lunar eclipse series which began on -20 February 19 and ended on 1296 April. The duration of Saros series 81 was 1316.2 years, and it contained 74 lunar eclipses.

In other fields

Eighty-one is also:

- The number of squares on a shogi playing board
- The year AD **81**, 81 BC, or 1981.
- The atomic number of thallium
- The symbolic number of the Hells Angels Motorcycle Club. 'H' and 'A' are the 8th and 1st letter of the alphabet, respectively.
- The title of a short film by Stephen Burke: *81*
- The model number of Sinclair ZX81
- The number of the department in France called Tarn
- The designation of Interstate 81, a freeway that runs from Tennessee to New York.
- The code for international direct dial phone calls to Japan
- One of two ISBN Group Identifiers for books published in India
- Number of stanzas or chapters in the Tao te Ching (in the most common arrangements).
- Number of provinces in Turkey. 81st one is Düzce.
- Number of prayers said in the Rosary in each night.
- The 81 is a 1965 song by Candy and the Kisses.
- Artemis 81 is a 1981 BBC TV sci-fi drama.
- 'The Eighty-One Brothers' is a Japanese fable^[1]



In Culture

The Arabic characters for the numerals 8 and 1 are visible in the left palm of the human hand. In China, 81 always reminds people People's Liberation Army as it was founded on August 1.

References

[1] <http://www.sacred-texts.com/shi/jft2/jft207.htm> The Eighty-One Brothers

82 (number)

82 (**eighty-two**) is the natural number following 81 and preceding 83.

<p>← 81</p> <p style="text-align: right;">83 →</p> <p style="text-align: center;">82</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-second
Ordinal	82 (eighty-second)
Numeral system	82
Factorization	$2 \cdot 41$
Divisors	1, 2, 41, 82
Roman numeral	LXXXII
Binary	1010010_2
Octal	122_8
Duodecimal	$6A_{12}$
Hexadecimal	52_{16}

In mathematics

Eighty-two is the twenty-third biprime and the twelfth of the form $(2,q)$. The aliquot sum of **82** is 44 within the aliquot sequence $(82,44,40,50,43,1,0)$ **82** being the eighth composite number in the 43-aliquot tree.

Eighty-two is a companion Pell number.

Eighty-two is a happy number

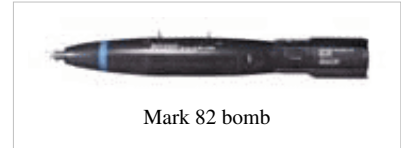
In astronomy

- Messier 82, a starburst galaxy in the constellation Ursa Major
- The New General Catalogue object NGC 82, a single star in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -293 April 22 and ended on 969 May. The duration of Saros series 82 was 1262.1 years, and it contained 71 solar eclipses. The Saros number of the lunar eclipse series which began on -226 September 10 and ended on 1289 March. The duration of Saros series 82 was 1514.5 years, and it contained 85 lunar milo davis.

In other fields

Eighty-two is also:

- The atomic number of lead.
- In physics, the sixth Magic Number.
- the model number of: Mark 82 bomb, a nonguided general purpose bomb.
- the number of the French department Tarn-et-Garonne
-
- the code for international direct dial phone calls to South Korea.
- The ISBN Group Identifier for books published in Norway .
- Title of Dennis Smith's book about firefighters: *Report from Engine Co. 82*.
- The year AD **82**, 82 BC, or 1982.
- The sophomore studio album of Kenyan house trio Just A Band.
- The number of Trip Murphy's (Matt Dillon) car in *Herbie Fully Loaded* (2005).
- The number (*82) to unblock your caller ID for phones that block anonymous incoming calls.
- The very significant number that appears at the end of Kurt Vonnegut's book "Hocus Pocus".



In sports

- Both the NBA and NHL operate 82-game regular seasons.

pnb:82

83 (number)

83	80	3
----	----	---

83 (eighty-three) is the natural number following 82 and preceding 84.

<p>← 82 84 →</p> <p style="text-align: center;">83</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-three
Ordinal	83 (eighty-third)
Numeral system	83
Factorization	prime
Prime	23rd
Divisors	1, 83
Roman numeral	LXXXIII
Binary	1010011 ₂
Octal	123 ₈
Duodecimal	6B ₁₂
Hexadecimal	53 ₁₆

In mathematics

Eighty-three is the sum of three consecutive primes ($23 + 29 + 31$) as well as the sum of five consecutive primes ($11 + 13 + 17 + 19 + 23$).

It is also the 23rd prime number, following 79 and preceding 89. 83 is a Sophie Germain prime and a safe prime, and also a Chen prime. It is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$.

It is also a highly cototient number.

In science

Chemistry

- The atomic number of bismuth
- No stable isotope of any element has an atomic mass of 83

Astronomy

- Messier object M83, a magnitude 8.5 spiral galaxy in the constellation Hydra, also known as the Southern Pinwheel Galaxy
- The New General Catalogue object NGC 83, a magnitude 12.3 elliptical galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -210 May 5 and ended on 1052 May. The duration of Saros series 83 was 1262.1 years, and it contained 71 solar eclipses. The Saros number of the lunar eclipse series which began on -197 August 22 and ended on 1318 February. The duration of Saros series 83 was 1514.5 years, and it contained 85 lunar eclipses.

In religion

Judaism

- When someone reaches 83 they may celebrate a second bar mitzvah

In music

- M83 is the debut album of the French electronic music group M83
- 83 is a song written by John Mayer in the *Room for Squares* album.
- 83 is a Quebec hip-hop group
- Frank Sinatra charted 83 Billboard Top 200 albums

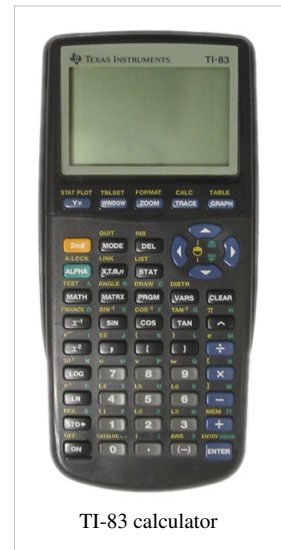
In film and television

- Gypsy 83 is 2001 film directed by Todd Stephens
 - Class of '83 is 2004 film directed by Kurt E. Soderling
 - 83 Hours 'Til Dawn is a 1990 film directed by Donald Wrye
 - The number Barney Stinson of *How I Met Your Mother* always uses when he makes up facts ^[1]
 - 83 is the highest UHF channel on older televisions made before the late 1970s (newer televisions only go up to channel 69, due to the frequency spectrum previously assigned to channels 70-83 in the USA being re-assigned to cellular phone service there in the late 1970s-early 1980s). As an example, the television station CIVIC-TV managed by the James Woods character Max Renn in the 1983 film *Videodrome* was on Channel 83.
-

In other fields

Eighty-three is also:

- The year AD **83**, 83 BC, or 1983
- The TI-83 series, graphing calculators from Texas Instruments
- The model number of Bell XP-83
- The number of the French department Var
- The designation of Interstate 83, a freeway that runs from Maryland to Pennsylvania
- European route E83 from Bjala to Sofia
- The ISBN Group Identifier for books published in Poland
- The eighth letter of the alphabet is H and the third letter is C, thus 83 stands for "Heil Christ," a greeting sometimes (not always) used by racist organizations that consider themselves also to be Christian.^[2] This symbology is also known to be used by many non-racist (though certainly religion-biased)^[2] Christians and non-denominational Churches.
- An emoticon based on :3 with wide-open eyes.



TI-83 calculator

References

- [1] <http://how-i-met-your-mother.wikia.com/wiki/83>
- [2] Hate Number Symbols: 83 - From A Visual Database of Extremist Symbols, Logos and Tattoos (http://www.adl.org/hate_symbols/numbers_83.asp)

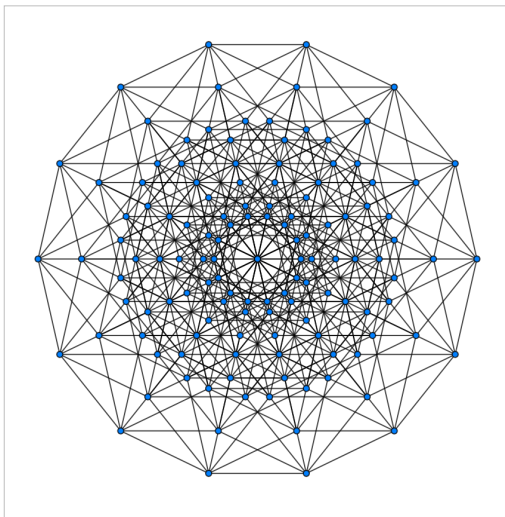
pnb:83

84 (number)

84 (**eighty-four**) is the natural number following 83 and preceding 85.

← 83		85 →
84		
← 80 81 82 83 84 85 86 87 88 89 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →		
Cardinal	eighty-four	
Ordinal	84 (eighty-fourth)	
Numeral system	84	
Factorization	$2^2 \cdot 3 \cdot 7$	
Divisors	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 17, 21, 28, 32, 33, 34, 35, 37, 39, 42, 46, 53, 59, 84	
Roman numeral	LXXXIV	
Binary	1010100 ₂	
Octal	124 ₈	
Duodecimal	70 ₁₂	
Hexadecimal	54 ₁₆	

In mathematics



Eighty-four is the sum of the first seven triangular numbers (making it a tetrahedral number), as well as the sum of a twin prime (41 + 43). Being thrice a perfect number, 84 is itself a semiperfect number.

Eighty-four is also the lim sup of the largest finite subgroup of the mapping class group of a genus g surface divided by g .

A hepteract is a seven-dimensional hypercube with 84 penteract 5-faces

In astronomy

- Messier object M84, a magnitude 11.0 lenticular galaxy in the constellation Virgo

- The New General Catalogue object ^[6] NGC 84, a single star in the constellation Andromeda
- The Saros number of the solar eclipse series which began on -181 April 14 and ended on 1099 May 22. The duration of Saros series 84 was 1280.1 years, and it contained 72 solar eclipses.^[1] Further, the number of the lunar eclipse series which began on -96 September 13 and ended on 1401 February 28. The duration of Saros series 84 was 1496.5 years, and it contained 84 lunar eclipses.^[2]

In sports

Los Angeles Lakers Magic Johnson holds the record for assists in a 6-game NBA Finals Series (1985) with 84

Toronto Maple Leafs Mikhail Grabovski wears 84.

Minnesota Vikings Randy Moss wears 84.

In other fields

Eighty-four is also:

- The year AD **84**, 84 BC, or 1984.
- The atomic number of polonium
- The model number of Harpoon missile
- WGS 84 - The latest revision of the World Geodetic System, a fixed global reference frame for the Earth.
- The house number of 84 Avenue Foch
- The number of the French department Vaucluse
- The designation of Interstate 84, two Interstate Highways that run from Oregon to Utah and from Pennsylvania to Massachusetts.
- The code for international direct dial phone calls to Vietnam
- The town of Eighty Four, Pennsylvania
- The company 84 Lumber
- The ISBN Group Identifier for books published in Spain
- A variation of the game 42 played with two sets of dominoes.
- The film "84 Charing Cross Road" (1987) starring Anne Bancroft and Anthony Hopkins
- KKNX Radio 84 in Eugene, Oregon
- *The John Larroquette Show* ran on NBC from 1993 to 1996 for 84 episodes
- The B-Side to "Up All Night" (Take That song)
- British Army term for the 84mm Carl Gustav recoilless rifle.



References

[1] <http://eclipse.gsfc.nasa.gov/SEsaros/SEsaros084.html>

[2] <http://eclipse.gsfc.nasa.gov/LEsaros/LEsaros084.html>

pnb:84

85 (number)

85 (eighty-five) is the natural number following 84 and preceding 86.

<p>← 84</p> <p style="text-align: right;">86 →</p> <p style="text-align: center;">85</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-five
Ordinal	85 (eighty-fifth)
Numeral system	85
Factorization	$5 \cdot 17$
Divisors	1, 5, 17, 85
Roman numeral	LXXXV
Binary	1010101_2
Octal	125_8
Duodecimal	71_{12}
Hexadecimal	55_{16}

In mathematics

85 is an octahedral number, a centered triangular number, a centered square number, a decagonal number, and a Smith number.

85 is the product of two prime numbers (5 and 17), and is therefore a biprime; specifically, the 24th biprime not counting perfect squares. Together with 86 and 87, it forms the second cluster of three consecutive biphimes.

85 can be expressed as a sum of two squares in two ways, $85 = 9^2 + 2^2 = 7^2 + 6^2$

85 is 1111 (a repunit) in base 4; which is expected, since its two factors 5 and 17 are consecutive Fermat primes, and the base 4 is one less than the smaller factor 5.

The aliquot sum of 85 is 23 within the aliquot sequence (23,1,0) 85 being the second composite number in the 23-aliquot tree.

In astronomy

- Messier object M85 is a magnitude 10.5 lenticular galaxy in the constellation Coma Berenices
- NGC 85 is a galaxy in the constellation Andromeda
- 85 Io is a large main belt asteroid
- 85 Pegasi is a multiple star system in constellation of Pegasus
- 85 Ceti is a variable star in the constellation of Cetus
- 85P/Boethin is a periodic comet
- 85 is the Saros number of the solar eclipse series which began on -170 March 14 and ended on 1110 April (1280.1 years, 72 solar eclipses)
- 85 is also the Saros number of the lunar eclipse series which began on -103 August 2 and ended on 1267 November (1370.3 years, 77 lunar eclipses)

In titles and names

- *Federalist No. 85*, by Alexander Hamilton, the last of the *Federalist Papers*' (1788)
- *The 85 Ways to Tie a Tie*, a book by Thomas Fink and Yong Mao
- *85 Days: The Last Campaign of Robert Kennedy* a book by Jules Witcover
- *Live/1975–85*, an album of live recordings by Bruce Springsteen (1986)
- *80–85* a compilation album by Bad Religion (1991)
- *Cupid & Psyche 85*, an album by band Scritti Politti (1985)
- *45/85* was a television documentary on World War II
- Minuscule 85, Papyrus 85, Lectionary 85 are early Greek manuscripts of the New Testament
- "85", a 2000 rap single by YoungBloodz, from their album *Against Da Grain*
- 85°C, a Taiwanese coffee store chain.

In other fields

Eighty-five is also:

- The year AD 85, 85 BC, or 1985.
- The Muslim calendar year 85 AH.
- The atomic number of astatine
- The number of the French department Vendée
- The ISBN Group Identifier for books published in Brazil
- The radix of the Ascii85 (sometimes called Base85) binary-to-text encoding
- The IQ and nickname of Aaron in Alien 3

Moreover:

- Arabigere 85 is a village in India
- E85 fuel is 85% ethanol and 15% conventional gasoline
- MCS-85 was a family of Intel processors including the 8085
- TI-85 was a graphing pocket calculator by Texas Instruments
- KC 85 was a family of small computers built in East Germany in the 1980s
- PMD 85 was a personal computer built in Czechoslovakia in 1985
- Learjet 85 is an all-composite plane being developed by Bombardier Aerospace
- British Rail Class 85, a category of UK train locomotives
- DRG Class 85, a category of German train locomotives
- TK 85 was a clone of the Sinclair ZX81 made in Brazil in 1985
- Lima Site 85 was a battle in the Vietnam War



Published in Brazil:
ISBN: 85..

- A85 is the Dutch Defence in the *Encyclopaedia of Chess*
- EF 85mm is a photographic camera lens by Canon
- F-85 is a family of Oldsmobile cars

In military technology

- 85mm is a common caliber for cannons
- SU-85 was a Soviet tank
- TR-85 was a Romanian battle tank
- Tu-85 was a prototype Soviet bomber
- ASU-85 a Soviet self-propelled gun
- CZ 85 is a Czech 9mm semiautomatic pistol
- PT-85 is a Korean tank
- 7.62 Tkiv 85 is a Finnish army rifle
- HG 85 is a Swiss fragmentation grenade
- Taurus Model 85, a 9mm revolver made in Brazil

In sports

NFL

- Cincinnati Bengals player Chad Ochocinco wears #85. During October 29, 2006 warm-ups, Ochocinco (then known as Chad Johnson) wore "Ocho Cinco" (Spanish for 8-5) on his jersey, which immediately became his nickname. On August 29, 2008, Chad legally changed his surname to "Ochocinco" (without the space).

See also

- List of highways numbered 85
- List of highways numbered 85A
- Type 85, a designation of many military equipment

External links

- 85 ^[1]
- Jorge Stolfi, The Hollywood Constant ^[2].

pnb:85

References

[1] <http://www.wisdomportal.com/Numbers/85-1.html>

[2] <http://www.ic.unicamp.br/~stolfi/realwork/hollyconst/>

86 (number)

86 (eighty-six) is the natural number following 85 and preceding 87.

\leftarrow 85	
86	
87 \rightarrow	
\leftarrow 80 81 82 83 84 85 86 87 88 89 \rightarrow	
List of numbers — Integers	
0 10 20 30 40 50 60 70 80 90 \rightarrow	
Cardinal	eighty-six
Ordinal	86 (eighty-sixth)
Numeral system	86
Factorization	$2 \cdot 43$
Divisors	1, 2, 43, 86
Roman numeral	LXXXVI
Binary	1010110_2
Octal	126_8
Duodecimal	72_{12}
Hexadecimal	56_{16}

In mathematics

86 is the twenty-fifth distinct semiprime and the thirteenth of the form $(2 \cdot q)$. The aliquot sum of **86** is 46 within the aliquot sequence (86,46,26,16,15,9,4,3,1,0) **86** being the seventeenth composite number in the 3-aliquot tree.

86 is the middle number in the second cluster of three discrete semiprimes between 85 and 87 being themselves discrete semiprimes.

86 is a semiprime, nontotient, a noncototient, a happy number, and a self number. It appears in the Padovan sequence, preceded by the terms 37, 49, 65 (it is the sum of the first two of these).

Since it is possible to find sequences of 86 consecutive integers such that each inner member member shares a factor with either the first or the last member, 86 is an Erdős–Woods number.

86 is a repdigit in base 6 (222).

In science

86 is the atomic number of radon. There are 86 metals on the modern periodic table.

In sports

Motorcycle Road Racers

- Cameron Donald
- Lars Remsen ^[1]
- Ben Young, AMA Super Sport

Canadian Football League Players

- Ben Cahoon,
- Arjei Franklin,
- Brian Hernandez,
- Teyo Johnson,
- Maurice Mann

National Football League Players

- Chris Baker,
 - Marty Booker,
 - Reggie Brown,
 - Daniel Coats,
 - Fred Davis,
 - Clint Didier
 - Derek Fine,
 - Brian Finneran,
 - Michael Gaines,
 - Todd Heap,
 - Brian Jennings,
 - Eddie Kennison,
 - Donald Lee,
 - Brandon Manumaleuna,
 - Dennis Northcutt,
 - Martin Rucker,
 - Tom Santi,
 - Edell Shepherd,
 - Isaiah Stanback,
 - Jerramy Stevens,
 - Tony Stewart,
 - David Thomas,
 - Hines Ward,
 - Harry Williams,
-

In other fields

Eighty-six is also:

- 86 (term), a slang term
- The capital letter V in the ASCII character encoding.
- Part of the assignation for the Toyota Trueno GT-Apex (AE86), commonly referred to as an "eight-six".
- The model number of F-86 Sabre and Ilyushin Il-86 aircraft.
- The model number of CPM-86 operating system.
- Part of the model number of the X86 microprocessors.
- The band Project 86 based its name on the usage of being 86'd.
- The novel *Eighty-Sixed* by David B. Feinberg details life as a gay man during the AIDS epidemic in 1980s New York City.
- In the TV series *Get Smart*, the principal character Maxwell Smart was also known as Agent 86.
- American punk rock band Green Day has a song called "86".
- The number of the French department Vienne.
- The designation of two highways named Interstate 86, one in Idaho and the other in Pennsylvania and New York.
- +86 is the code for international direct dial phone calls to China.
- One of five ISBN Group Identifiers for books published in Serbia.
- Chick Hicks the villain in the movie *Cars* is a stock car whose number is 86. The number refers both to movie creators, Pixar's founding year, as well as the year *Luxo Jr* (their first short film) was released.
- The Boston Red Sox won the World Series for the first time in 86 years in 2004, and lost it with bad luck in 1986.
- New York City's Pier 86 is the site of the aircraft carrier USS *Intrepid*, now a Sea, Air, and Space Museum.
- Both the HBO television series *The Sopranos*, and the CBS series *Secret Agent Man* had a run of 86 episodes.
- An art gallery in Ventura, CA displaying art pieces from such artists Billy Childish, Stacy Lande and Derek Hess; most of which include the number *86 hidden or overtly shown in the art; some of which fall under the genre of lowbrow.
- 86 is the device number for a lockout relay function in electrical engineering electrical circuit protection schemes.
- The channel used for the New Haven High School (Indiana) news and morning announcements broadcast, known as Channel 86.
- A US passport applicant uses US Department of State form DS-86 to cancel a US passport application in the event of non-receipt.
- The Term "86'd", is used to mean someone has been fired or demoted in a position. It is also used in restaurants to mean service of a particular item has ended.

See also the year AD **86**, 86 BC, or 1986.

Cultural references

- In *Sunset Boulevard (film)*, Norma Desmond, a faded star of silent films, lives at 10086 Sunset Boulevard.
- In *Forbidden Planet*, paragraph 86a details the civilian evacuation procedure.

Notes

[1] <http://www.LeanAngle.us>

87 (number)

87 (eighty-seven) is the natural number following 86 and preceding 88.

<p>← 86 88 →</p> <p style="text-align: center;">87</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-seven
Ordinal	87 (eighty-seventh)
Numeral system	87
Factorization	$3 \cdot 29$
Divisors	1, 3, 29, 87
Roman numeral	LXXXVII
Binary	1010111_2
Octal	127_8
Duodecimal	73_{12}
Hexadecimal	57_{16}

In mathematics

Eighty-seven is the twenty-sixth distinct semiprime and the eighth of the form $(3 \cdot q)$. The aliquot sum of 87 is 33 within the aliquot sequence (87,33,15,9,4,3,1,0) 86 being the eighteenth composite number in the 3-aliquot tree.

Eighty-seven is the sum of the squares of the first four primes. It is also the sum of the sum of divisors of the first ten integers.

In sports

In cricket in Australia, 87 is considered an unlucky score (the devil's number) thought to originate from the fact that 87 is 13 runs short of a century, equivalent a Nelson's, Double-Nelson's etc (111, 222 etc) in English cricket.

Buddy Helms was the oldest NASCAR car driver at 87, in 2003.

In the National Hockey League, Wayne Gretzky scored a league-high 87 goals with the Edmonton Oilers in the 1983–84 NHL season.

In the National Hockey League, Sidney Crosby of the Pittsburgh Penguins and Donald Brashear of the New York Rangers wear number 87.

In other fields

Eighty-seven is also:

- The year AD **87**, 87 BC, or 1987
- The atomic number of francium
- The number of years between the signing of the U.S. Declaration of Independence and the Battle of Gettysburg, immortalized in Abraham Lincoln's Gettysburg Address: *Fourscore and seven years ago, our fathers...*
- The model number of Junkers Ju 87
- The number of the French department Haute-Vienne
- The designation of Interstate 87, a freeway in New York; the European route E87 from Tulcea to Antalya
- The code for international direct dial phone calls to Inmarsat and other services
- The 87 photographic filter blocks visible light allowing only infrared light to pass
- The ISBN Group Identifier for books published in Denmark.
- 87 is the exact number of people who died in the Waco Branch Davidian fire.
- the opus number of the 24 Preludes and Fugues of Dmitri Shostakovich.
- In model railroading, the ratio of the popular H0 scale is 1:87. Proto:87 scale claims to offer precise proportions of wheels and tracks of real railroads.
- David Bowie CD (1987) "Never Let Me Down" includes the song, "'87 and Cry"
- The 87th United States Congress met from January 3, 1961 - January 3, 1963 during John F. Kennedy's time in office
- Ed McBain's "87th Precinct: Lightning" film starred Randy Quaid (1995)
- 87 Punch includes 1 bottle of Bacardi Rum (8 years aged) and 7-up (2 liter bottle)
- Wenger Swiss Army Knife version XXL, listed in the Guinness Book of World Records as the world's most multi-functional penknife with 87 tools
- Sonnet 87 by William Shakespeare
- The U 87 is a popular microphone used for recording

pnb:87

88 (number)

88 (eighty-eight) is the natural number following 87 and preceding 89.

<p>← 87 89 →</p> <p>88</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-eight
Ordinal	88 (eighty-eighth)
Numeral system	88
Factorization	$2^3 \cdot 11$
Divisors	1, 2, 4, 8, 11, 22, 44, 88
Roman numeral	LXXXVIII
Binary	1011000_2
Octal	130_8
Duodecimal	74_{12}
Hexadecimal	58_{16}

In mathematics

Eighty-Eight is a refactorable number, a primitive semiperfect number and an untouchable number. It is also an hexadecagonal number.

Since it is possible to find sequences of 88 consecutive integers such that each inner member member shares a factor with either the first or the last member, 88 is an Erdős–Woods number.

In base 10, it is a palindromic number and a repdigit.

In astronomy and space exploration

- The number of constellations in the sky as defined by the International Astronomical Union
- Messier object M88, a magnitude 11.0 spiral galaxy in the constellation Coma Berenices
- The New General Catalogue object ^[1] NGC 88, a spiral galaxy in the constellation Phoenix, and a member of Robert's Quartet
- Space Shuttle Mission 88 (STS-88), launched and completed in December, 1998, began the construction of the International Space Station.
- The Saros number of the solar eclipse series which began on -246 October 6 and ended on 1233 March. The duration of Saros series 88 was 1478.4 years, and it contained 83 solar eclipses. Further, the Saros number of the lunar eclipse series which began on 38 July and ended on 1336 August. The duration of Saros series 88 was 1298.1 years, and it contained 73 lunar eclipses.
- Approximately the number of days it takes Mercury to complete its orbit.

Cultural significance

In Chinese culture

Eighty-eight (88) symbolizes fortune and good luck since the word 8 sounds similar to the word Fā (发, which implies 发财, or wealth, in Mandarin). The number 8 is considered to be the luckiest number of all in Chinese culture and prices in Chinese supermarkets can often be found containing many 8's (see numbers in Chinese culture). The Chinese government has even been auctioning auto license plates containing many 8s for tens of thousands of dollars. The 2008 Beijing Olympics opened on 8/8/08 at 8 p.m.^[2]

88 is used to mean "bye bye"; found in Chinese-language chat, text, SMS, IM. 88 is pronounced in Chinese Mandarin language as "ba ba" ("bā bā" to be precise), simulating the sound of the English language farewell "bye bye".

As a Neo-Nazi symbol

Eighty-eight is used as code among Neo-Nazis to identify each other.^[3] **H** is the 8th letter of the alphabet, so **88** is taken to stand for **HH** which in turn means **Heil Hitler**.^[4] For example, the number is used in the song "88 rock'n'roll band" by the neo-Nazi group Landser. The late convicted Order terrorist David Lane wrote "Fourteen Words" and 88 Precepts, and the numbers are often found in combination (1488, 14/88, etc.). This form of the number has inspired the naming of the groups Column 88, Unit 88, White Legion 88 and Barselc88.

In Amateur Radio

88 is used as shorthand for 'hugs and kisses' when signing a message in Amateur (ham) Radio. It is used in spoken word (radiotelephony) morse code (radiotelegraphy) and in various digital modes. It is considered rather more intimate than '73', which (roughly) means 'best regards', and therefore 73 is more often used. The two may be used together. Sometimes the 88 or 73 is pluralized by appending an s, which is incorrect.^[5] These number codes are at least a century old.

Electric Six (It Ain't Punk Rock) - "Number 88, Number 88, Number 88"

In sports

In the Scottish Premier League, Celtic player Gary Hooper opted to wear the number 88 shirt, representing 1988, the year he was born.^[6]

Professional golfer Kathy Whitworth, throughout her playing career won 88 LPGA Tour tournaments, more than anyone else has won on either the LPGA Tour or the PGA Tour.

In Major League Baseball, Red Sox Ted Williams hit 88 home runs against the Detroit Tigers, his most against any one team. Rich Gedman hit 88 home runs in his career (1980–1992) with the Boston Red Sox, Houston Astros, and the St. Louis Cardinals.

NASCAR driver Dale Earnhardt, Jr. drives the #88 AMP Energy/National Guard Chevrolet in the Sprint Cup Series with Hendrick Motorsports.

In the National Hockey League, Patrick Kane of the Chicago Blackhawks wears 88 for the year he is born in, 1988.^[7] The number 88 is also the team number for Eric Lindros. And Future Hall-Of-Famer Dominic Houle Currently wears the number 88 for the Vancouver Canucks of the National Hockey League.

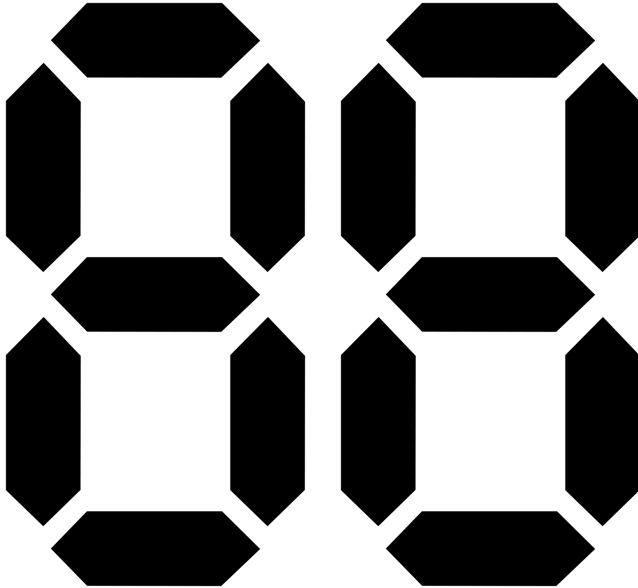
In the National Football League, Marvin Harrison wore 88 for the Indianapolis Colts for 13 seasons. Tony Gonzalez wore 88 for the Kansas City Chiefs. Tight End Jeremy Shockey wears 88 for the New Orleans Saints. Receiver Dez Bryant currently wears 88 for the Dallas Cowboys. Hall-of-Fame wide receiver, Michael Irvin wore number 88 during his years in the Dallas Cowboys. Also Hall-of-Fame defensive tackle Alan Page, now a Minnesota Supreme

Court justice, wore 88 during his tenure with the Minnesota Vikings.

Small forward Nicolas Batum wears number 88 (his birth year) for the Portland Trail Blazers of the National Basketball Association. He is the only NBA player to wear this number.


After his NHL career was done John Craighead wore the number 88 while playing within the German first division DEL for the Nuernberg Ice Tigers.

In other fields



Eighty-eight is also:

- the year AD **88**, 88 BC, or 1988
- in mm, a standard length of playing cards
- a popular ice cream bar manufactured by GB Glace
- the atomic number of radium
- the ASCII code for an upper-case X
- the number of keys on a piano (36 black and 52 white), a piano is sometimes called an "eighty eight"
- 88 Keys, character in Dick Tracy (1990 film)
- 88 is another way of greeting someone, by saying what are you doing. "88?" meaning what are you at? or what are you 8?
- The digits indicated when all the segments of two seven-segment displays are illuminated
- *Eighty Eight*, a live album by the Christian rock band The 77s
- in the titles of songs:
 - "Rocket 88," a song first recorded at Sam Phillips' studio in 1951; Rocket 88 was a 1980s United Kingdom band named for the song
 - "88 Lines About 44 Women" by the band The Nails
 - "88" by the Canadian punk band Sum 41 on their 2004 album, *Chuck*
 - "88" by the English Nu-Metal band Apartment 26 on their second album, *Music for the Massive*
 - "88", a song by Level 42 on the album *Strategy*
 - "88" by hip hop act The Cool Kids
 - "88" by the Japanese electro-pop duo LM.C, or Lovely Mocochang.com

- the model number of the Oldsmobile 88 automobile and the AGM-88 HARM missile
 - the caliber of the 88 mm anti-aircraft gun used in World War II, commonly known as 88 (*acht-acht* in German)
 - the number of the French department Vosges
 - the designation of two freeways named Interstate 88: one in Illinois and the other in New York
- 

Olds 88
- the town of Eighty Eight, Kentucky
 - used
 - in Japanese, often used to mean "a great many" or "countless"; numbers such as eighteen, eighty, eighty thousand, eight-hundred, eighty thousand, and the like can bear the same connotation
 - in hip hop, where "88" stands for "HH," short for "hip hop"
 - in *Kill Bill*, the name of O-Ren Ishii's Army, the Crazy 88
 - the ISBN Group Identifier for books published in Italy and Switzerland
 - in miles per hour, the speed that the DeLorean automobile must attain in order to travel in time, in the *Back to the Future* trilogy
 - in the TV series *Black Books* (Series 2, Episode 2: "Fever"), the temperature (presumably in Fahrenheit) above which Manny's case of Dave's Syndrome will trigger, supposedly a parody of the similar use of the number 88 in the *Back to the Future* trilogy
 - "the number of the Anti-Terrorist" in the documents submitted to NBC by Seung-Hui Cho prior to the Virginia Tech massacre on 16 April 2007 [8]
 - the number of an anti-terrorist police squad, called "Detachment 88", set up by the Indonesian government following the 2002 Bali bombings which killed 202 people, including 88 Australians
 - Used to say "kisses and hugs" among morse code and amateur radio users, as it resembles an image of two lips kissing
 - Tanner '88, Garry Trudeau's HBO series on the fictional campaign of Congressman Jack Tanner in his bid for the White House
 - *88 Minutes*, a 2008 film starring Al Pacino
 - The Cambridge Z88 was a 1988 portable computer
 - 88open was an industry standards group in '88 created by Motorola to standardize Unix systems
 - An '88-level' is a named condition in the COBOL programming language
 - The House on East 88th Street, a book by Bernard Waber
 - 88-Keys, an American record producer and rapper
 - in Texas hold 'em poker, the pocket pair 88 is referred to as the "Snowmen"
 - 88 is the name of a gang in the 2006 American film *Gridiron Gang* starring Dwayne Johnson
 - In the United States Navy, 88 is slang for the word "what". For example, "88 are you doing tonight?"
 - 88infinits by Arnau Vilardebò, a story-telling show around the form and the mythology of the 88 constellations

References

- [1] <http://www.ngcic.com/>
- [2] Lucky 8's in China (<http://freakonomics.blogs.nytimes.com/2006/07/05/lucky-8s-in-china/>)
- [3] The BNP next door (<http://www.guardian.co.uk/politics/2008/nov/22/bnp-far-right-race>)
- [4] [adl.org/hate_symbols/numbers_88](http://www.adl.org/hate_symbols/numbers_88) (http://www.adl.org/hate_symbols/numbers_88.asp)
- [5] <http://www.signalharbor.com/73.html>
- [6] Hooper to wear number 88 for Celtic (<http://sport.stv.tv/football/scottish-premier/celtic/188621-hooper-to-wear-number-88-for-celtic>)
STV Sport, 27 July 2010
- [7] The NHL Draft Keg Party: Patrick Kane (<http://melroserocks.blogspot.com/2007/06/nhl-draft-keg-party-patirck-kane.html>)
- [8] <http://www.msnbc.msn.com/id/18186080/>

pnb:88

89 (number)

89 (eighty-nine) is the natural number following 88 and preceding 90.

<p>← 88 90 →</p> <p style="margin-left: 100px;">89</p>	
<p>← 80 81 82 83 84 85 86 87 88 89 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	eighty-nine
Ordinal	89 (eighty-ninth)
Numeral system	89
Factorization	89
Prime	24th
Divisors	1, 89
Roman numeral	LXXXIX
Binary	1011001 ₂
Octal	131 ₈
Duodecimal	75 ₁₂
Hexadecimal	59 ₁₆

In mathematics

Eighty-nine is the 24th prime number, following 83 and preceding 97. 89 is a Chen prime. It is the smallest Sophie Germain prime to start a Cunningham chain of the first kind of six terms, {89, 179, 359, 719, 1439, 2879}. 89 is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$.

89 is a Fibonacci number. Its reciprocal has a curious relationship^[1] to the Fibonacci sequence F(n):

$$\frac{1}{89} = \sum_{n=1}^{\infty} F(n) \times 10^{-(n+1)} = 0.011235955\dots$$

89 is also a Markov number, appearing in solutions to the Markov Diophantine equation with other odd-indexed Fibonacci numbers.

Although 89 is not a Lychrel number in base 10, it is unusual that it takes 24 iterations of the reverse and add process to reach a palindrome. Among the known non-Lychrel numbers in the first 10000 integers, no other number requires that many or more iterations. The palindrome reached is also unusually large.^[2]

In science

- The atomic number of actinium.

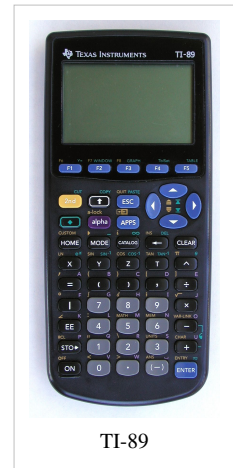
In astronomy

- Messier object M89, a magnitude 11.5 elliptical galaxy in the constellation Virgo.
- The New General Catalogue object ^[1] NGC 89, a magnitude 13.5 peculiar spiral galaxy in the constellation Phoenix and a member of Robert's Quartet.

In other fields

Eighty-nine is also:

- A jersey number of a Russian and NHL hockey legend Alexander Mogilny
- The number of Ang Ladlad Party List running for a congressional seat in the Philippine 2010 national elections
- The jersey number of Washington Redskins wide receiver Santana Moss
 - The jersey number of [Carolina panthers] [3] wide receiver Steve Smith
- Part of the name of the baseball team Oklahoma City 89ers (1962–1997)
- The designation of Interstate 89, a freeway that runs from New Hampshire to Vermont
- The designation of U.S. Route 89, a north-south highway that runs from Montana to Arizona
- The ISBN Group Identifier for books published in Korea
- Pop Song 89
- The year AD **89**, 89 BC
- California Proposition 89, a 2006 California ballot initiative on campaign finance reform
- The Oklahoma Redhawks were formerly known as the Oklahoma 89ers.
- In Rugby, an "89" or eight-nine move is a phase following a scrum, in which the number 8 catches the ball and transfers it to number 9 (scrum half).
- The greatest number of verses in a chapter of a book of the Bible other than the Book of Psalms—specifically Numbers chapter 7.
- The number of units of each colour in the board game Blokus
- The number of the French department Yonne
- Information Is Beautiful cites eighty-nine as one of the words censored on the Chinese Internet.^[4]



TI-89

References

- [1] Similar identities can be written for all numbers in sequence A028387 (<http://en.wikipedia.org/wiki/Oeis:a028387>) of the OEIS.
- [2] Weisstein, Eric W. "196-Algorithm." From MathWorld, a Wolfram Web Resource. (<http://mathworld.wolfram.com/196-Algorithm.html>)
- [3] <http://www.carolinapanthers.com>
- [4] retrieved 01/16/10 (<http://www.informationisbeautiful.net/>)

pnb:89

90 (number)

90 (**ninety**) is the natural number preceded by 89 and followed by 91.

← 89		91 →
90		
← 90 91 92 93 94 95 96 97 98 99 → List of numbers — Integers 0 10 20 30 40 50 60 70 80 90 →		
Cardinal	ninety	
Ordinal	90 (ninetieth)	
Numeral system	90	
Factorization	$2 \cdot 3^2 \cdot 5$	
Divisors	1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90	
Roman numeral	XC	
Binary	1011010 ₂	
Octal	132 ₈	
Duodecimal	76 ₁₂	
Hexadecimal	5A ₁₆	

In mathematics

Because 90 is the sum of its unitary divisors (excluding itself), it is a unitary perfect number, and because it is equal to the sum of a subset of its divisors, it is a semiperfect number. 90 is a pronic number. But it is also a nontotient. It is a Perrin number, preceded in the sequence by 39, 51, 68.

In normal space, the interior angles of a square measure 90 degrees each. Also, in a right triangle, the angle opposing the hypotenuse measures 90 degrees, with the other two angles adding up to 90 for a total of 180 degrees.^[1] Thus, an angle measuring 90 degrees is called a right angle.^[2]

90 is divisible by the sum of its base 10 digits, thus it is a Harshad number.

In science

Ninety is the atomic number of thorium, an actinide. As an atomic weight, 90 identifies an isotope of strontium, a by-product of nuclear reactions including fallout. It contaminates milk.

The latitude of the North Pole and the South Pole are 90 degrees.



In religion

Ninety of the Psalm are credited to Moses; some credit the ninety-first psalm to him as well.

In sports

- Nike Total 90 Apparel is a brand name of football apparel and football equipment from equipment bags to goalkeeper gloves
- Major League baseball bases are 90 feet (27 m) away in distance
- The car number most associated by former NASCAR team owner Junie Donlavey
- The number of minutes in a football (soccer) match.

References

[1] (<http://www.sparknotes.com/testprep/books/newsat/chapter20section4.rhtml>)

[2] Friedman, Erich. What's Special About This Number? (<http://www.stetson.edu/~efriedma/numbers.html>)

pnb:90

91 (number)

91 (**ninety-one**) is the natural number following 90 and preceding 92.

<p>← 90</p> <p style="text-align: right;">92 →</p> <p style="text-align: center;">91</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-one
Ordinal	91 (ninety-first)
Numeral system	91
Factorization	$7 \cdot 13$
Divisors	1, 7, 13, 91
Roman numeral	XCI
Binary	1011011_2
Octal	133_8
Duodecimal	77_{12}
Hexadecimal	$5B_{16}$

In mathematics

Ninety-one is the twenty-seventh distinct semiprime and the second of the form (7.q). The aliquot sum of **91** is **21** within the aliquot sequence (91,21,11,1,0) **91** being the fourth composite number in the 11-aliquot tree.

Ninety-one is a triangular number and a hexagonal number, one of the few such numbers to also be a centered hexagonal number, and it is also a centered nonagonal number and a centered cube number. It is a square pyramidal number, being the sum of the squares of the first six integers.

It is the smallest positive integer expressible as a sum of two cubes in two different ways if negative roots are allowed (alternatively the sum of two cubes and the difference of two cubes): $91 = 6^3 + (-5)^3 = 4^3 + 3^3$. (See 1729 for more details).

It is also the smallest positive integer expressible as a sum of six distinct squares: $91 = 1^2 + 2^2 + 3^2 + 4^2 + 5^2 + 6^2$. The only other ways to write 91 as a sum of distinct squares are: $91 = 1^2 + 4^2 + 5^2 + 7^2$ and $91 = 1^2 + 3^2 + 9^2$.

It is also the smallest pseudoprime satisfying the congruence $3^n = 3 \pmod n$.^[1]

91 is a repdigit in base 9 (111). 91 is after number 90 and before number 92.

In science

- The atomic number of protactinium, an actinide.
- McCarthy 91 function, a recursive function in discrete mathematics

In astronomy,

Messier object M91, a magnitude 11.5 spiral galaxy in the constellation Coma Berenices

The New General Catalogue object ^[6] NGC 91, a single star in the constellation Andromeda

The Saros number ^[7] of the solar eclipse series which began on August 6, 159 BC and ended on 1175 October. The duration of Saros series 91 was 1334.2 years, and it contained 75 solar eclipses.

The Saros number ^[8] of the lunar eclipse series which began on 161 May and ended on 1459 July. The duration of Saros series 91 was 1298.1 years, and it contained 73 lunar eclipses.

In other fields

Ninety-one is also:

- The year AD **91**, 91 BC, or 1991.
- The designation of American Interstate 91, a freeway that runs from Connecticut to Vermont
- The designation of U.S. Route 91, a north-south highway that runs from Utah to Idaho
- The code for international direct dial phone calls to India
- In cents of a U.S. dollar, the amount of money one has if one has one each of the coins of denominations less than a dollar (penny, nickel, dime, quarter and half dollar)
- The ISBN Group Identifier for books published in Sweden.
- Psalm 91 is known as the Psalm of Protection. It is also the title of a book by Peggy Joyce Ruth
- 91 is a solitaire card game where the object is to move cards, so the top cards total 91.
- STS-91 Space Shuttle Discovery mission to the International Space Station, June 2, 1998
- Swedish comic strip 91:an
- The 91st Space Wing (91 SW) is a Minuteman (missile) III unit of the United States Air Force, based at Minot Air Force Base, North Dakota
- The number of the French department Essonne

In sports

Bandy

- Villa Lidköping BK Johan Andersson wears #91
- Solberg SK Marius Austad wears #91

MLB

- New York Yankees Joe DiMaggio had 91 hits during his 56-game hitting streak in 1941
- New York Yankees Alfredo Aceves wears #91 to honor Dennis Rodman.

NBA

- Chicago Bulls Dennis Rodman wore #91
- Ron Artest wore the number #91 during his time with the Indiana Pacers to honor legend Dennis Rodman.

NFL

- Pittsburgh Steelers Kevin Greene wore #91
- Buffalo Bills Eric Powell wears #91
- Chicago Bears Tommie Harris wears #91
- Cincinnati Bengals Robert Geathers wears #91

92 (number)

92 (**ninety-two**) is the natural number following 91 and preceding 93.

<p>← 91</p> <p style="text-align: right;">93 →</p> <p style="text-align: center;">92</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-two
Ordinal	92 (ninety-second)
Numeral system	92
Factorization	$2^2 \cdot 23$
Divisors	1, 2, 4, 23, 46, 92
Roman numeral	XCII
Binary	1011100_2
Octal	134_8
Duodecimal	78_{12}
Hexadecimal	$5C_{16}$

In mathematics

Ninety-two is a pentagonal number.

There are 92 Johnson solids. The snub dodecahedron has 92 faces, the most an Archimedean solid can have.

For $n = 8$, there are 92 solutions in the n-Queens Problem.

Since it is possible to find sequences of 92 consecutive integers such that each inner member member shares a factor with either the first or the last member, 92 is an Erdős–Woods number.

There are 92 "atomic elements" in the Look-and-say sequence, corresponding to the 92 non-transuranic elements in the chemist's periodic table.

In science

- The atomic number of uranium, an actinide.

In astronomy,

Messier object M92, a magnitude 7.5 globular cluster in the constellation Hercules

The New General Catalogue object ^[6] NGC 92, a magnitude 13.1 peculiar spiral galaxy in the constellation Phoenix, and a member of Robert's Quartet

The Saros number ^[7] of the solar eclipse series which began on 77 BC BC August and ended on 1240 October. The duration of Saros series 92 was 1316.2 years, and it contained 74 solar eclipses.

The Saros number ^[8] of the lunar eclipse series which began on 208 May and ended on 1488 June. The duration of Saros series 92 was 1280.1 years, and it contained 72 lunar eclipses.

In other fields

Ninety-two is also:

- The year AD **92**, 92 BC, or 1992.
- The code for international direct dial phone calls to Pakistan
- In the title of the book *Ninety-two in the Shade*, by Thomas McGuane.
- "The 92nd Tiger" book by Michael Gilbert
- "The House on 92nd Street", a 1945 film
- The model number of the gray Texas Instruments TI-92 graphing calculator
- The "Illustrious "92" or "Glorious 92": Massachusetts legislators who refused to rescind the Massachusetts Circular Letter soliciting other British colonies' support in resistance to the Townshend Acts prior to the American Revolution. Analogous to the number 45 in reference to the protests of John Wilkes against British corruption.
- The Guinness record of the longest placename, Taumatawhakatangihangakoauauotamatearehāeaturipukākāpikimaungahoronukupokaiwhenuakitanatahu, has 92 characters.
- The ISBN Group Identifier for books published by international publishers such as UNESCO.
- The number which runs through almost every single of British film-maker Peter Greenaway's films. This number has special association with the fictional character of Greenaway's creation, Tulse Luper. It is said the number itself is based on a mathematical error in calculations concerning John Cage's work *Indeterminacy*. See *The Falls* for extensive use of this number.
- "92", a song by Avail from their 1996 album *4am Friday*
- A 92-story Xujiahui Tower is proposed to be built in Shanghai, China. The 1,509 ft skyscraper would be Shanghai's 2nd tallest building, after the Shanghai World Financial Center.
- U.S. Route 92 is a 177-mile (285-km) intrastate U.S. Route in Florida
- Seville Expo '92 took place in Seville, Spain from April 20 to October 12, 1992
- The International Exhibition Genoa '92 Colombo '92 took place in Genoa, Italy from May 15 to August 15, 1992
- STS-92 Space Shuttle Discovery mission, on October 11, 2000 to the International Space Station
- The 92nd annual Nathan's Hot Dog Eating Contest in Coney Island was held July 4, 2007, where Joey Chestnut gulped down 66 hot dogs and buns in 12 minutes.
- The 92nd Street Y in Manhattan
- 92 is the number of NFL defensive tackle Albert Haynesworth.
- The Kemah Boardwalk Boardwalk Bullet roller coaster begins with a steep 92-foot drop
- The telephone number for police in Serbia (Serbian Ministry of Internal Affairs).

Vehicles

- The Saab 92 automobile
- The USS Tacoma (PG-92) gunboat

Geography

- The number of the French department Hauts-de-Seine

Nutrition

- 92 is the number of pounds of sugar the average American child consumes per year.

In sports

- The 92 Club is a society of the Premier League and Football League club in England and Wales. It takes its name from 92 teams in the league.
- The number 92 was worn by Michael Strahan and Reggie White.

pnb:92

93 (number)

93 (**ninety-three**) is the natural number following 92 and preceding 94.

<p>← 92</p> <p style="text-align: right;">94 →</p> <p style="text-align: center;">93</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-three
Ordinal	93 (ninety-third)
Numeral system	93
Factorization	$3 \cdot 31$
Divisors	1, 3, 31, 93
Roman numeral	XCIII
Binary	1011101_2
Octal	135_8
Duodecimal	79_{12}
Hexadecimal	$5D_{16}$

In mathematics

Ninety-three is the twenty-eighth distinct semiprime and the ninth of the form (3.q). The aliquot sum of **93** is **35** within the aliquot sequence (93,35,13,1,0) **93** being the fourth composite number in the 13-aliquot tree. **93** is the first number in the third triplet of three consecutive distinct semiprimes, **93**, **94** and **95**.

Since its two prime factors, 3 and 31 are both Gaussian primes, this means that 93 is a Blum integer.

Given **93** the Mertens function returns 0.

There are 93 solutions to Zná́m's problem for length 8.

93 is a repdigit in base 5 (333).

In science

- The atomic number of neptunium, an actinide.

In astronomy,

Messier object M93, a magnitude 6.5 open cluster in the constellation Puppis

The New General Catalogue object ^[6]NGC 93, a magnitude 13.3 spiral galaxy in the constellation Andromeda

The Saros number ^[7] of the solar eclipse series which began on August 9, 29 BC and ended on 1287 October.

The duration of Saros series 93 was 1316.2 years, and it contained 74 solar eclipses.

The Saros number ^[8] of the lunar eclipse series which began on 291 May and ended on 1571 July. The duration of Saros series 93 was 1280.1 years, and it contained 72 lunar eclipses.

In other fields

Ninety-three is also:

- The year AD **93**, 93 BC, or 1993.
- *Ninety-Three* (*Quatrevingt-treize*), a novel concerning the French Revolution by Victor Hugo
- American Interstate 93, a freeway that runs from Massachusetts to Vermont, and U.S. Route 93, a north-south highway in the Western United States, extending between the Canadian border in Montana, and Wickenburg, Arizona.
- The code for international direct dial phone calls to Afghanistan.
- The number of United Airlines Flight 93, which crashed in Pennsylvania, USA on September 11, 2001.
- A greeting among Thelemites, 93 is the numerological value of Thelema (Will) and Agape (Love) in Greek letters.
- One of two ISBN Group Identifiers for books published in India.
- The number of the French department Seine-Saint-Denis, and as such used by many French gangsta rappers and those emulating their speech.
- *Babia 93*, an album from a Pakistani pop singer Sajjad Ali
- London's 93 Feet East music venue
- Los Angeles 93 KHJ radio
- STS-93 was the mission of the Space Shuttle Columbia launched July 23, 1999.
- Tales From the Crypt ran on HBO for 93 episodes from 1989 - 1996.
- The sun is an est. 93 million miles away
- The 93rd United States Congress (1973 to 1975) was in session during President Richard Nixon's resignation in August 1974
- William Shakespeare's Sonnet 93
- Rhode Island Senator Theodore Francis Green (1867–1966) was 93 when he retired, and at the time, the oldest man ever to serve in the United States Congress
- Strom Thurmond, among the longest-serving senators in Congress history, won reelection at 93.
- The Saab 93, a car produced from 1950–1960
- The Saab 9-3, a car produced from 1998–Present, designed to replace the Saab 900.
- September 3 (the 3rd day of the 9th month) is China's Victory over Japan Day. There are still many September 3 streets and primary schools in China.

In sports

- Pittsburgh Steelers' Andy Russell made a 93-yard fumble return for a touchdown against the Baltimore Colts during the December 27, 1975 AFC Playoff game. This NFL-record fumble return was voted the 7th greatest play in Three Rivers Stadium history.
- Estelle Frenberg^[1] ran the Senior Olympics for 18 years. At 93, in 2005, she won 2 gold medals, setting a world record of 7 minutes, 10.84 seconds in the 800-meter run. She was chosen by the USA Track and Field Association as an Athlete of the Year.
- Gilbert Brown, a former defensive tackle with the Green Bay Packers, wore jersey #93.
- Doug Gilmour, a former centre in the National Hockey League, adopted #93 as his jersey number after joining the Toronto Maple Leafs in 1992.

Current National Hockey League players

- Johan Franzen,
- Jakub Voracek,
- Doug Weight

See also

List of highways numbered 93

External links

- On the Number 93 ^[2]

pnb:93

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[1] <http://www.azcentral.com/arizonarepublic/tempe/articles/0709seniorscene09Z10.html>

[2] <http://www.wisdomportal.com/Numbers/93.html>

94 (number)

94 (**ninety-four**) is the natural number following 93 and preceding 95.

<p>← 93</p> <p style="text-align: right;">95 →</p> <p style="text-align: center;">94</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-four
Ordinal	94 (ninety-fourth)
Numeral system	94
Factorization	$2 \cdot 47$
Divisors	1, 2, 47, 94
Roman numeral	XCIV
Binary	1011110_2
Octal	136_8
Duodecimal	$7A_{12}$
Hexadecimal	$5E_{16}$

In mathematics

Ninety-four is the twenty-ninth distinct semiprime and the fourteenth of the form $(2,q)$. The aliquot sum of **94** is **50** within the aliquot sequence $(94,50,43,1,0)$ **94** being the ninth composite number in the 43-aliquot tree. **94** is the second number in the third triplet of three consecutive distinct semiprimes, **93**, **94** and **95**.

94 is a 17-gonal number and a nontotient.

Since it is possible to find sequences of 94 consecutive integers such that each inner member member shares a factor with either the first or the last member, 94 is an Erdős–Woods number.

In decimal, 94 is a Smith number.

In computing

The ASCII character set (and, more generally, ISO 646) contains exactly 94 graphic non-whitespace characters, which form a contiguous range of code points. These codes (0x21–0x7E, as corresponding high bit set bytes 0xA1–0xFE) also used in various multi-byte encoding schemes for languages of East Asia, such as ISO 2022, EUC and GB 2312. For this reason, code pages of 94² and even 94³ code points were common in East Asia in 1980s–1990s.

In astronomy

- Messier 94, a spiral galaxy in the constellation Canes Venatici
- The New General Catalogue object NGC 94, a galaxy in the constellation Andromeda
- The Saros number of the solar eclipse series which began on –18 July 9 and ended on 1262 August with a duration of 1280.1 years and 72 solar eclipses. Also the number of the lunar eclipse series which began on 302 April and ended on 1600 June with duration of 1298.1 years and 73 lunar eclipses.

In other fields

Ninety-four is:

- The year AD **94**, 94 BC, or 1994.
- The atomic number of plutonium, an actinide.
- The designation of
 - American Interstate 94, a freeway that runs from Montana to Michigan.
 - STS-94 Space Shuttle Columbia launched July 1, 1997
- The code for international direct dial phone calls to Sri Lanka.
- Part of the model number of
 - AN-94, a Russian assault rifle.
 - M-94, a piece of cryptographic equipment used by the United States army in use from 1922-1943.
- The number of Haydn's Surprise Symphony (Symphony No. 94).
- Used as a nonsense number in various contexts by the British satire magazine *Private Eye*. Most commonly, spoof articles end halfway through an intriguing sentence with "*(continued p. 94)*". The magazine never extends to 94 pages: this was originally a reference to the enormous size of some Sunday newspapers.
- The origin of the comic nature of 94 is unknown but surely predates *Private Eye*. For example, the Scots comedian Will Fyffe sings "I'm 94 today" in the first half of the twentieth century
- The 94th United States Congress met from January 1975 - January 1977 during the President Gerald Ford's administration.
- "Hustle up the Hancock" is a benefit stair climb race up 94 floors of the John Hancock Center in Chicago to the observation deck, held each February.
- The 94th Fighter Squadron is a squadron of the United States Air Force, currently part of the 1st Operations Group of the 1st Fighter Wing, and stationed at Langley Air Force Base in Virginia
- The 94th Infantry Division was a unit of the United States Army in World War II, activated: September 15, 1942.
- Saab 94 was the model number Saab unofficially used for the first generation Saab Sonett
- I-94 is the form used to declare to US Customs Officers by international travelers the items in their possession, purpose of visit, etc...
- The number of the French department Val-de-Marne

In sports

- The Jersey Number of Ryan Smyth a 32 year-old all-star left wing for the Colorado Avalanche of the National Hockey League
- The Jersey Number of Carter Smith ^[1], a right wing for the Yorkton Terriers of the Saskatchewan Junior Hockey League
- The length of an NBA court is 94 feet and width is 50 feet
- Dwayne Johnson, ("The Rock") wore #94 as a defensive end for the University of Miami Hurricanes in 1991
- Buck O'Neil made a plate appearance in a minor league All-Star game in Kansas City on July 18, 2006 at age 94
- The Jersey Number of DeMarcus Ware linebacker for the Dallas Cowboys
- The Jersey Number of Jeremy Menez midfield for the Roma soccer team

See also

- List of highways numbered 94

pnb:94

References

- [1] http://www.yorktonterriers.com/team_roster_player.aspx?player_id=921

95 (number)

95 (**ninety-five**) is the natural number following 94 and preceding 96.

<p>← 94 96 →</p> <p>95</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-five
Ordinal	95 (ninety-fifth)
Numeral system	95
Factorization	$5 \cdot 19$
Divisors	1, 5, 19, 95
Roman numeral	XCV
Binary	1011111_2
Octal	137_8
Duodecimal	$7B_{12}$
Hexadecimal	$5F_{16}$

In mathematics

Ninety-five is the thirtieth distinct semiprime and the fifth of the form $(5.q)$. The aliquot sum of **95** is **25** within the aliquot sequence $(95,25,6)$ **95** being the third composite number in the 6-aliquot tree. **Ninety-five** is the last member in the third triplet of distinct semiprimes **93**, **94** and **95**.

95 is an 11-gonal number. At ninety-five, the Mertens function sets a new high of 2, after being below 0 for most of the numbers from 3 to 92. This record stands until 218. 95 is a Thabit number.

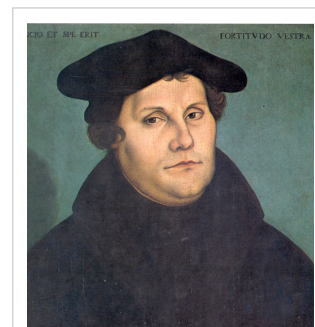
In astronomy

- The Messier object M95, a magnitude 11.0 spiral galaxy in the constellation Leo
- The New General Catalogue object ^[6]NGC 95, a magnitude 12.6 peculiar spiral galaxy in the constellation Pisces
- The Saros number of the solar eclipse series which began on 47 July and ended on 1309 August, with a duration of 1262.1 years and 71 solar eclipses. Further, the Saros number of the lunar eclipse series which began on 331 April and ended on 1611 May, with a duration of 1280.1 years and 72 lunar eclipses.

In other fields

Ninety-five is also:

- The year AD **95**, 95 BC, or 1995.
- The atomic number of americium, an actinide.
- The number of theses in Martin Luther's *95 Theses*.
- "95 Poems" by E.E. Cummings (1958)
- The book *The Prince, Utopia, Ninety-Five Thesis* by Sir Thomas More
- The designation of American
 - Interstate 95, a freeway that runs from Florida to Maine.
 - U.S. Highway 95, a freeway that runs through the western part of the United States.
- Bay Ridge–95th Street subway station, Brooklyn, on the R Train
- York Mills 95E, a bus route number from the Toronto Transit Commission
- 95th Street is a major east-west thoroughfare on Chicago's South Side, designated as 9500 South in the address system
- Part of the name of:
 - Windows 95, a version of the Microsoft Windows graphical interface. Also a fictional operating system, Hamilton 95
 - CommSuite 95 was a communications software suite of products launched by Delrina in 1995, created for use with Windows 95
 - Dogme 95, a movement in filmmaking developed in 1995
 - The model number of the automobile Saab 95 introduced in 1959, and Saab 9-5 introduced 1997
 - The car number of Lightning McQueen (voiced by Owen Wilson and the main character in Disney/Pixar's *Cars*). 95 was used as his racing number because 1995 was the year *Toy Story* was released.
 - In the upcoming animated film *Toy Story 3*, Woody is seen driving a steam locomotive in a trailer for the film. The steam locomotive's number is 95 in reference to Lightning McQueen's racing number and the year the first *Toy Story* was released (again).
 - OC Transpo Route 95, A Transitway bus route in Ottawa, Ontario
- Part of the designation of:
 - Z-95 Headhunter, a fictitious starfighter from the Star Wars Expanded Universe.
 - Tupolev Tu-95 (NATO reporting name Bear), a strategic bomber and missile carrier from the times of the Soviet Union
- The number of the French department Val-d'Oise
- The ASCII code for the underscore character
- The code for international direct-dial phone calls to Myanmar
- In statistics, a 95% confidence interval is considered satisfactory for most purposes.
- The movie *95 Miles to Go* (2004) starring Ray Romano
- The movie *Worlds and Counting*^[1] (2000) starring John Lithgow
- 95 South was a Miami bass duo
- 95th Air Base Wing
- The 95th Infantry Division was a unit of the U.S. Army in World War II
- The Nextel i95cl cell phone
- The Nokia N95 Smartphone
- Bahá'ís use prayer beads to repeat the prayer Allahuabha (God is most glorious) 95 times.



Luther posted his *95 Theses* on 1517 October at the Castle Church of Wittenberg

- STS-95 Space Shuttle Discovery mission launched October 28, 1998. It was the historic second space flight for Senator John Glenn.
- The Ninety-fifth United States Congress met from January 1977 to 1979 during the first two years of the Jimmy Carter presidency.
- The 95th Pope was Stephen IV (767–72)
- ANSI/ISA-95, or ISA-95, is an international standard for developing an automated interface between enterprise and control systems
- President's signal in Phillips Code. A telegraph "wire signal" used to indicate top priority.
- +95 is the ITU country code for the Union of Myanmar.

In sports

- NBA record for Most Assists in a 7-game playoff series, 95, Los Angeles Lakers Magic Johnson, 1984
- NBA record for Most Free Throw Attempts in a 6-game playoff series, 95, Los Angeles Lakers Jerry West, 1965
- The 1999 World Series was the 95th annual Fall Classic

See also

- List of highways numbered 95

External links

- On the Number 95 ^[2]

pnb:95

References

[1] <http://www.imdb.com/title/tt0472992/95>

[2] <http://www.wisdomportal.com/Numbers/95.html>

97 (number)

97 (**ninety-seven**) is the natural number following 96 and preceding 98.

<p>← 96 98 →</p> <p>97</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-seven
Ordinal	97 (ninety-seventh)
Numeral system	97
Factorization	Prime p_{25}
Divisors	1, 97
Roman numeral	XCVII
Binary	1100001_2
Octal	141_8
Duodecimal	81_{12}
Hexadecimal	61_{16}

In mathematics

97 is the 25th prime number (the largest two-digit prime number in base 10), following 89 and preceding 101. 97 is a Proth prime as it is $3 \times 2^5 + 1$.

The numbers 97, 907, 9007, 90007 and 900007 are happy primes. However, 9000007 (read as *nine million seven*) is composite and has the factorisation 277×32491 .

97 is the tenth member of the Mian–Chowla sequence.

97 is the smallest factor of one more than the product of the first twenty-five terms of the Euclid–Mullin sequence, making it the twenty-sixth term.

Since there is no integer that added to its own digits adds up to 97, 97 is a self number in base 10.

In astronomy

- Messier object M97, a magnitude 12.0 planetary nebula in the constellation Ursa Major, also known as the Owl Nebula
- The New General Catalogue object NGC 97, an elliptical galaxy in the constellation Andromeda
- The Saros number of
 - the solar eclipse series which began on 123 June and ended on 1385 July. The duration of Saros series 97 was 1262.1 years, and it contained 71 solar eclipses.
 - the lunar eclipse series which began on 425 March and ended on 1723 May. The duration of Saros series 97 was 1298.1 years, and it contained 73 lunar eclipses.

In other fields

Ninety-seven is:

- The year AD **97**, 97 BC, or 1997.
- The atomic number of berkelium, an actinide.
- The number of different characters that can be used with a standard English Keyboard.
- The designation of Interstate 97, a freeway in Maryland, the shortest Interstate freeway in the continental United States
- British Columbia Highway 97 is the longest continuously-numbered route in the province, from the Canada/U.S. border at Osoyoos to the British Columbia/Yukon border
- U.S. Route 97 is a United States highway from Weed, California, to Okanogon County, Washington
- OC Transpo Route 97, A Transitway bus route in Ottawa, Ontario
- The 97th United States Congress met during the Ronald Reagan administration, from January 1981 to January 1983
- The 10-97 police code means "arrived on the scene"
- STS-97 Space Shuttle Endeavour mission launched November 30, 2000
- The 97th Infantry Division was a unit of the United States Army in World War I and World War II.
- Madden NFL 97 was the first John Madden NFL American football game to be created in the 32-bit gaming era.
- 97 radio stations, such as Hot 97, New York City and 97X, Tampa, Florida

In music

- A song Baby Boy / Saturday Night '97 by Whigfield
- The number of the Southern Railway `train in the Wreck of the Old 97, a ballad recorded by numerous artists, including Flatt and Scruggs, Woody Guthrie, Johnny Cash, Nine Pound Hammer, and Hank Snow.
- The Old 97's are an alt-country band, which took their name from the song "The Wreck of the Old 97"
- A song by Alkaline Trio off their self titled album
- The Marching 97, finest band east of all points west, is the marching band of Lehigh University.

In sports

- The car number of Kurt Busch's Ford when he won the 2004 NASCAR Nextel Cup Series championship.
- Don Larsen pitched a perfect game in Game 5 of the 1956 World Series on October 8, 1956. He threw a total 97 pitches
- The 2001 World Series between the Arizona Diamondbacks and the New York Yankees was the 97th Fall Classic
- Jeremy Roenick used to wear 97

Current National Hockey League players

- Rostislav Klesla,
- Per Ledin

See also

- List of Highways Numbered 97

pnb:97

98 (number)

<p>← 97</p> <p style="text-align: right;">99 →</p> <p>98</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-eight
Ordinal	98 (ninety-eighth)
Numeral system	98
Factorization	$2 \cdot 7^2$
Divisors	1, 2, 7, 14, 49, 98
Roman numeral	XCVIII
Binary	1100010_2
Octal	142_8
Duodecimal	82_{12}
Hexadecimal	62_{16}

98 (ninety-eight) is the natural number following 97 and preceding 99.

In mathematics

Ninety-eight is a Wedderburn-Etherington number and a nontotient. 7 and, 2 is the "prime factors"

In astronomy

Messier 98, a magnitude 11.0 spiral galaxy in the constellation Coma Berenices.

The New General Catalogue object NGC 98, a magnitude 12.7 spiral galaxy in the constellation Phoenix.

In computing

Windows 98 is a Microsoft OS.

In other fields

Ninety-eight is:

- The year AD **98**, 98 BC, or 1998.
- The atomic number of californium, an actinide.
- In the name of the band 98 Degrees.
- 98.6 degrees Fahrenheit is normal body temperature.
- A song "98.6" sung by Keith in 1967.
- The number of sons of Ater in the Census of men of Israel upon return from exile (Holy Bible, Ezra 2:16)



- The Oldsmobile 98.
- The Saab 98 car
- The Space Shuttle Orbiter Pathfinder OV-098 is a Space Shuttle simulator
- STS-98 Space Shuttle Atlantis mission launched February 7, 2001
- Expo '98 World's Fair was held in Lisbon, Portugal from May to September 1998
- Microsoft Flight Simulator 98 is a flight simulator program
- Radio stations such as Power 98 WPEG, Charlotte, NC and Power 98 SAFRA in Singapore. Also a 1996 film starring Eric Roberts about an a Los Angeles talk radio station.
- The Trail of '98, a 1928 western film
- Spirit of '98 Cruises, owned by the Cruise West can fit 98 passengers
- 0-98 code in police code means "Assignment Completed"
- A book, The Trail of 98
- The 98th United States Congress met from January 1983 to January 1985 during the last two years of the Ronald Reagan administration's first term
- Beach 98th Street, often referred as Beach 98th Street–Playland, is a station on the New York City Subway's IND Rockaway Line
- The Main Propulsion Test Article MPTA-098, built by Rockwell International, as a testbed for the definitive propulsion and fuel delivery systems for the United States Space Shuttle Program.
- The code for international direct dial phone calls to the Iran (+98).

In sports

- The highest jersey number allowed in the National Hockey League, as 99 was retired by the entire league to honor Wayne Gretzky and major-league sports only allow one- or two-digit uniform numbers.
- The 2002 World Series between the Anaheim Angels and San Francisco Giants was the 98th Fall Classic

See also

List of highways numbered 98

pnb:98

99 (number)

<p>← 98</p> <p style="text-align: right;">100 →</p> <p style="text-align: center;">99</p>	
<p>← 90 91 92 93 94 95 96 97 98 99 →</p> <p>List of numbers — Integers</p> <p>0 10 20 30 40 50 60 70 80 90 →</p>	
Cardinal	ninety-nine
Ordinal	99 (ninety-ninth)
Numeral system	99
Factorization	$3^2 \cdot 11$
Divisors	1, 3, 9, 11, 33, 99
Roman numeral	XCIX
Binary	1100011_2
Octal	143_8
Duodecimal	83_{12}
Hexadecimal	63_{16}

99 (**ninety-nine**) is the natural number following 98 and preceding 100.

Mathematics

99 is the ninth repdigit, a palindromic number and a Kaprekar number. It is the sum of divisors of the first eleven positive integers.

99 is the sum of the cubes of 3 consecutive integers:

$$99 = 2^3 + 3^3 + 4^3$$

Science

- The atomic number of Einsteinium, an actinide, is 99

Sports

In the National Hockey League, 99 has been the only number retired league-wide as of 1999, for Wayne Gretzky. The Edmonton Oilers and Los Angeles Kings, the two teams for which he played the bulk of his NHL career, have separately retired the number in his honor.

99 is the NBA record for Most Free Throw Attempts in a 7-game series, set by Elgin Baylor of the Los Angeles Lakers in 1962. In the fictional film Major League, Charlie Sheen's character wore the Cleveland Indians #99 uniform.

Greg Moore's Champ Car car number 99 was retired after his fatal accident.

In cricket, it is considered unlucky if you reach 99 due to most batsmen getting out and not making the century.

Carlton full-forward Brendan Fevola ended the 2008 AFL season one goal short of the century, scoring 99 goals all season. In the same season, the Geelong Football Club recorded two 99-point victories, the first against Essendon in round two, and the second a win over the West Coast Eagles in round 22.

99 is the maximum jersey number a player can wear in the NFL.

Former Los Angeles Dodger and current Chicago White Sox outfielder Manny Ramirez wears the number 99, and is both the first Dodger and White Sox player ever to do so.

NASCAR driver Carl Edwards drives the #99 Ford Fusion.

George Mikan also wore number 99 when he played for the Minneapolis Lakers.

Other

- 99 is a common price ending in psychological pricing (e.g., \$1.99 as opposed to \$2.00)
- 99 Names of Allah, the names or attributes of God in the Koran^[1]
- The 99th United States Congress, which met from January 1985 to January 1987, during the Ronald Reagan administration
- In the *Mighty Ducks* movies, Adam Banks wears the number 99.

References

[1] Denis Guedj, *Numbers: The Universal Language*, transl. Lory Frankel. New York: Harry N. Abrams (1997): 125.

pnb:99

100 (number)

<h1>100</h1>	
← 100 101 102 103 104 105 106 107 108 109 → List of numbers — Integers ← 100 110 120 130 140 150 160 170 180 190 →	
Cardinal	100 one hundred
Ordinal	100th hundredth (or, one hundredth)
Numeral system	unary
Factorization	$2^2 \times 5^2$
Divisors	1, 2, 4, 5, 10, 20, 25, 50, 100
Greek numeral	ρ′
Roman numeral	C
Roman numeral (Unicode)	C, c
Arabic	١٠٠
Bengali	১০০
Chinese numeral	佰, 百
Korean	백
Devanagari	१००
Hebrew	קפ (Kuf)
Khmer	១០០
Thai	๑๐๐
prefixes	Hundred
Binary	1100100
Octal	144
Duodecimal	84
Hexadecimal	64

100 (one hundred) (Roman numeral C, for *centum*) is the natural number following 99 and preceding 101.

In mathematics

One hundred is the square of 10 (in scientific notation it is written as 10^2). The standard SI prefix for a hundred is "hecto-".

One hundred is the basis of percentages (literally "per hundred"), with 100% being a full amount.

It is the sum of the first nine prime numbers, as well as the sum of four pairs of prime numbers ($47 + 53$, $17 + 83$, $3 + 97$, $41 + 59$), and the sum of the cubes of the first four integers ($100 = 1^3 + 2^3 + 3^3 + 4^3$). Also, $2^6 + 6^2 = 100$, thus 100 is a Leyland number.

One hundred is also an 18-gonal number. It is divisible by the number of primes below it, 25 in this case. But it can not be expressed as the difference between any integer and the total of coprimes below it, making it a noncototient. However, it can be expressed as a sum of some of its divisors, making it a semiperfect number.

100 is a Harshad number in base 10, and also in base 4, and in that base it is a self-descriptive number.

In science

The atomic number of fermium is 100.

On the Celsius scale, 100 degrees is the boiling temperature of pure water at sea level.

In politics

The United States Senate has 100 Senators.

In money

Most of the world's currencies are divided into 100 subunits; for example, one euro is one hundred cents and one pound sterling is one hundred pence.

The U.S. hundred-dollar bill has Benjamin Franklin's portrait; the "Benjamin" is the largest U.S. bill in print. American savings bonds of \$100 have Thomas Jefferson's portrait, while American \$100 treasury bonds have Andrew Jackson's portrait.

In other fields

One hundred is also:

- The number of years in a century
- The number of pounds in an American short hundredweight
- The number of tiles in a standard Scrabble set
- In Greece, India and Israel, 100 is the police telephone number.
- In Belgium, 100 is the ambulance and firefighter telephone number.
- In United Kingdom, 100 is the operator telephone number
- Hundred Days, aka the Waterloo Campaign
- "The First Hundred Days" is an arbitrary benchmark of a President of the United States' performance at the beginning of his or her term.
- 100 is the HTTP status code indicating that the client should continue with its request



The U.S. hundred-dollar bill, Series 2009.

In entertainment

The number 100 \$\$\$ appears in the titles of numerous books, films, TV shows, episodes of TV shows, songs, etc.

When a TV series reaches 100 episodes, it is generally considered viable for syndication. (For shows picked up midseason, this point is generally reached during a prime time series' 5th season).

In sports

- The number of yards in an American football field (not including the end zones).
- The number of runs required for a cricket batsman to score a Century, a significant milestone
- The record number of points scored in one NBA game by a single player, set by Wilt Chamberlain of the Philadelphia Warriors on March 2, 1962 ^[1] I
- The minimum distance in yards for a Par 3 on a golf course

See also

- 100 Greatest Britons
- 100 Greatest Christmas Moments
- 100 Greatest Kids' TV shows
- Hundred (division)
- Hundred (word)
- Hundred Days
- Hundred Years' War
- List of highways numbered 100
- Top 100
- The Top 100 Crime Novels of All Time
- Top 100 winning pitchers of all time
- 100 Most Influential Books Ever Written

External links

- On the Number 100 ^[2]

References

[1] Wilt Chamberlain. (14 September 2010). In *Basketball Legend Chamberlain Dies at 63*. Retrieved September 14, 2010 from <http://www.washingtonpost.com/wp-srv/sports/nba/daily/oct99/13/chamberlain13.htm>

[2] <http://www.wisdomportal.com/Numbers/100.html>

- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): 133

koi:Cë pnb:100

101 (number)

101 (one hundred [and] one) is the natural number following 100 and preceding 102.

It is variously pronounced "one hundred and one" / "a hundred and one", "one hundred one" / "a hundred one", and "one oh one". As an ordinal number, 101st rather than 101th is the correct form.

<p>← 100 102 →</p> <p>101</p>	
<p>← 100 101 102 103 104 105 106 107 108 109 →</p> <p>List of numbers — Integers</p> <p>← 100 110 120 130 140 150 160 170 180 190 →</p>	
Cardinal	one hundred [and] one
Ordinal	101 (one hundred [and] first)
Numeral system	101
Factorization	prime
Prime	26th
Divisors	1, 101
Roman numeral	CI
Binary	1100101_2
Octal	145_8
Duodecimal	85_{12}
Hexadecimal	65_{16}

In mathematics

101 is the 26th prime number and a palindromic number (and so a palindromic prime). The next prime is 103, with which it makes a twin prime pair, making 101 a Chen prime. Because the period length of its reciprocal is unique among primes, 101 is a unique prime. 101 is an Eisenstein prime with no imaginary part and real part of the form $3n - 1$.

101 is the sum of five consecutive primes (13 + 17 + 19 + 23 + 29). Given 101, the Mertens function returns 0. 101 is the fifth alternating factorial.

101 is a centered decagonal number.

The smallest prime for which $2^p - 1$ has not been completely factored.

For a 3-digit number in base 10, this number has a relatively simple divisibility test. The candidate number is split into groups of four, starting with the rightmost four, and added up to produce a 4-digit number. If this 4-digit number is of the form $1000a + 100b + 10a + b$ (where a and b are integers from 0 to 9), such as 3232 or 9797, or of the form $100b + b$, such as 707 and 808, then the number is divisible by 101. This might not be as simple as the divisibility tests for numbers like 3 or 5, and it might not be terribly practical, but it is simpler than the divisibility tests for other 3-digit numbers.[citation needed]

On the seven-segment display of a calculator, 101 is both a strobogrammatic prime and a dihedral prime.

In science

- In mineralogy, a Miller index of 101 is a crystal face that crosses the horizontal axis (a) and 3d vertical axis (c) but does not cross the 2d vertical axis (b).
- In physics and chemistry, it is the atomic number of mendelevium, an actinide.

In books

According to Books in Print, more books are now published with a title that begins with '101' than '100'. They usually describe or discuss a list of items, such as *101 Ways to...* or *101 Questions and Answers About...*. This marketing tool is used to imply that the customer is given a little extra information beyond books that include only 100 items. Some books have taken this marketing scheme even further with titles that begin with '102', '103', or '1001'. The number is used in this context as a slang term when referring to "a 101 document" what is usually referred to as a statistical survey or overview of some topic.

Room 101 is a torture chamber in the novel *Nineteen Eighty-Four* by George Orwell.

In Other Fields

- 101 Ranch Oil Company
- Taipei 101, the tallest skyscraper in the world from 2004 to 2010.
- 101st kilometre, a condition of release from the Gulag in the Soviet Union.
- Roi Et Province, a province in Thailand. The name is literally 101 in Thai language.
- An HTTP status code indicating that a client should switch protocols (e.g. to HTTPS).
- The first course in a subject taught at a college or university in Australia, Canada, South Africa, or the United States.^[1] By extension, "*Topic 101*" is used generally to indicate the basics of any subject. The expression is also used in this non-academic sense in the UK. Used this way, it is always pronounced "one-oh-one".^[2] ^[3] See Course number.
- For a new checking account in the US, the number of the first check.
- A term used to define the number of keys on a computer keyboard^[4]
- An emergency telephone number in Argentina, Belarus, Belgium, India, and Israel.
- 101 is the Single Non-Emergency Number (SNEN) in some parts of the UK, a telephone number used to call emergency services that are urgent but not emergencies.^[5]
- iCar 101 is a roadable aircraft design concept.^[6]
- 101 Dalmatians
- The Zastava 101 is a compact car by the former Yugoslav automaker.
- Highways numbered 101, the longest and most well-known of which is U.S. Route 101.
- the number 101 has a very important symbolic meaning to the Western Literary Society VNICA, the oldest student society in Amsterdam

References

- Wells, D. *The Penguin Dictionary of Curious and Interesting Numbers* London: Penguin Group. (1987): page 133. ISBN 978-0140080292
- [1] Engber, Daniel (6 September 2006), ""101 101: How did intro classes get their trademark number?" (<http://www.slate.com/id/2149082/>), *Slate*,
- [2] *101* (<http://dictionary.reference.com/search?q=101>), Dictionary.com,
- [3] At universities with four-digit course numbers, the equivalent course number is 1001 or 1010. This use is unheard of in the United Kingdom.
- [4] *101-Key "Enhanced" Keyboard Layout* (<http://www.pcguides.com/ref/kb/layout/stdEnh101-c.html>), PC Guide, , retrieved 2009-05-04
- [5] *Welcome to 101* (<http://www.101.gov.uk>), Home Office, , retrieved 2009-04-05
- [6] *iCar 101 - The ultimate roadable aircraft* (<http://www.iCar-101.com>), , retrieved 2010-08-06

1000 (number)

List of numbers — Integers	
← 1k 2k 3k 4k 5k 6k 7k 8k 9k →	
Cardinal	1000 one thousand
Ordinal	1000th one thousandth
Factorization	$2^3 \cdot 5^3$
Divisors	1, 2, 4, 5, 8, 10, 20, 25, 40, 50, 100, 125, 200, 250, 500, 1000
Roman numeral	M
Roman numeral (Unicode)	M, m, 𐌆
prefixes	chilia (from Greek) milli (from Latin)
Binary	1111101000
Octal	1750
Duodecimal	6B4
Hexadecimal	3E8

1000 (one thousand) is the natural number following 999 and preceding 1001.

In mathematics

- The decimal representation for one thousand is
 - **1,000**—a one followed by three zeros, in the general notation ;
 - 1×10^3 —in engineering notation, which for this number coincides with :
 - 1×10^3 exactly—in scientific normalized exponential notation ;
 - **1 E+3** exactly—in scientific E notation.
- The SI prefix for a thousand is **kilo-**, officially abbreviated as **k**—for instance prefixed to "meter" or its abbreviation *m*, *kilometer* or *km* signifies a thousand meters, as such, technically oriented people occasionally represent the number in a non-standard notation by replacing the last three zeros of the general numeral with "k", for instance, 30 k for 30,000.
- The sum of Euler's totient function over the first 57 integers is 1000.

In time

- A millennium has 1000 years. The year 1000 was the last year of the 1st millennium.

In popular culture

- In art, 1000 paintings^[1] has been a popular internet art project by Swiss artist Sala.
- In music, *I Feel It/Thousand* is a 1993 techno single by Moby.
- A *grand* is a slang term in English for one thousand units of a given currency. Several *grand* can be shortened to *G's*.
- Especially in the United States, the gambling community often refers to denominations of \$1000 as *dimes*.
- A picture is worth a thousand words.

Miscellaneous

- "One thousand" is the lowest positive integer in which the letter A appears in the American English spelling. (In British English, 101 is spelled as "one hundred and one".)
- Thousand Oaks, California

Music

- Thousand Foot Krutch an alternative rock band

Selected numbers in the thousands (1001–1999)

1001–1249

- 1001 – sphenic number ($7 \times 11 \times 13$), pentagonal number, pentatope number
- 1002 – sphenic number, Mertens function zero, abundant number
- 1003 – semiprime (17×59)
- 1005 – Mertens function zero
- 1008 – divisible by the number of primes below it
- 1009 – first prime above 1000
- 1010 – Mertens function zero
- 1013 – Sophie Germain prime, centered square number, Mertens function zero
- 1014 – Mertens function zero
- 1015 – square pyramidal number
- 1016 – member of the Mian–Chowla sequence
- 1018 – Mertens function zero
- 1019 – Sophie Germain prime, safe prime
- 1020 – polydivisible number
- 1023 – the highest number one can count to on one's fingers using binary; also the magic number used in Global Positioning System signals
- 1024 – 2^{10} , the number of bytes in a kilobyte (in 1999, the IEC coined kibibyte to use for 1024 with kilobyte being 1000, but this convention has not been widely adopted)
- 1027 – sum of the squares of the first eight primes

- 1028 – sum of totient function for first 58 integers
- 1031 – Sophie Germain prime
- 1033 – locale ID of English (United States) in (some version of) Windows.(VS.80).aspx ^[2].
- 1035 – triangular number, hexagonal number
- 1049 – Sophie Germain prime, highly cototient number
- 1051 – centered pentagonal number
- 1056 – pronic number
- 1060 – sum of the first 25 primes
- 1071 – heptagonal number
- 1072 – centered heptagonal number
- 1079 – every positive integer is the sum of at most 1079 tenth powers.
- 1080 – pentagonal number
- 1081 – triangular number, member of Padovan sequence
- 1086 – Smith number, sum of totient function for first 59 integers
- 1087 – Chen prime, cousin prime, lucky prime, Kynea number
- 1089 – 33^2 , nonagonal number, centered octagonal number
- 1091 – cousin prime and twin prime
- 1092-divisible by the number of primes below it
- 1093 – the smallest Wieferich prime (the only other known Wieferich prime is $3511^{[3]}$), twin prime and star number
- 1102 – sum of totient function for first 60 integers
- 1103 – Sophie Germain prime, balanced prime
- 1104 – Keith number
- 1105 – Carmichael number, magic constant of $n \times n$ normal magic square and n-Queens Problem for $n = 13$, decagonal number, centered square number, $1105 = 33^2 + 4^2 = 32^2 + 9^2 = 31^2 + 12^2 = 23^2 + 24^2$
- 1116 – divisible by the number of primes below it
- 1122 – pronic number, divisible by the number of primes below it
- 1123 – balanced prime
- 1124 – Leyland number
- 1128 – triangular number, hexagonal number, divisible by the number of primes below it
- 1134-divisible by the number of primes below it
- 1138 – recurring number in the works of George Lucas and his companies, beginning with his first feature film – *THX 1138*; particularly, a special code for Easter eggs on *Star Wars* DVDs.
- 1140 – tetrahedral number
- 1152 – highly totient number
- 1153 – Proth prime
- 1156 – 34^2 , octahedral number, centered pentagonal number
- 1159 – member of the Mian-Chowla sequence
- 1161 – sum of the first 26 primes
- 1162 – pentagonal number, sum of totient function for first 61 integers

- 1169 – highly cototient number
- 1170 – highest possible score in a National Academic Quiz Tournaments (NAQT) match
- 1176 – triangular number
- 1177 – heptagonal number
- 1184 – amicable number with 1210^[4]
- 1187 – safe prime, Stern prime, balanced prime
- 1190 – pronic number
- 1192 – sum of totient function for first 62 integers
- 1198 – centered heptagonal number
- 1200 – the number of households the Nielsen ratings sample^[5]
- 1201 – centered square number
- 1210 – amicable number with 1184^[6]
- 1216 – nonagonal number
- 1217 – Proth prime
- 1219 – Mertens function zero
- 1220 – Mertens function zero
- 1223 – Sophie Germain prime, balanced prime
- 1225 – 35^2 , triangular number, square triangular number, hexagonal number, centered octagonal number
- 1228 – sum of totient function for first 63 integers
- 1229 – Sophie Germain prime
- 1233 – $12^2 + 33^2$
- 1240 – square pyramidal number
- 1241 – centered cube number
- 1242 – decagonal number
- 1247 – pentagonal number

1250–1499

- 1255 – Mertens function zero
- 1256 – Mertens function zero
- 1258 – Mertens function zero
- 1259 – highly cototient number
- 1260 – highly composite number, pronic number, the smallest vampire number, sum of totient function for first 64 integers
- 1261 – star number, Mertens function zero
- 1264 – sum of the first 27 primes
- 1266 – centered pentagonal number, Mertens function zero
- 1270 – Mertens function zero
- 1279 – Mertens function zero
- 1280 – Mertens function zero
- 1282 – Mertens function zero

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- 1283 – safe prime
 - 1285 – Mertens function zero
 - 1288 – heptagonal number
 - 1289 – Sophie Germain prime, Mertens function zero
 - 1291 – Mertens function zero
 - 1292 – Mertens function zero
 - 1296 – 6^4 , 36^2 , sum of the cubes of the first eight positive integers, the number of rectangles on a normal 8×8 chessboard
 - 1297 – Mertens function zero
 - 1299 – Mertens function zero
 - 1300 – Mertens function zero, largest possible win margin in an NAQT match
 - 1301 – centered square number
 - 1302 – Mertens function zero
 - 1306 – Mertens function zero
 - 1307 – safe prime
 - 1308 – sum of totient function for first 65 integers
 - 1309 – the first sphenic number followed by two consecutive such number
 - 1312 – member of the Mian-Chowla sequence
 - 1318 – Mertens function zero
 - 1319 – safe prime
 - 1325 – Markov number
 - 1326 – triangular number, hexagonal number, Mertens function zero
 - 1328 – sum of totient function for first 66 integers
 - 1329 – Mertens function zero
 - 1330 – tetrahedral number, forms a Ruth–Aaron pair with 1331 under second definition
 - 1331 – 11^3 , centered heptagonal number, forms a Ruth-Aaron pair with 1330 under second definition
 - 1332 – pronic number
 - 1335 – pentagonal number, Mertens function zero
 - 1336 – Mertens function zero
 - 1337 – Used in the novel form of spelling called leet
 - 1338 – Mertens function zero
 - 1342 – Mertens function zero
 - 1350 – nonagonal number
 - 1365 – pentatope number
 - 1367 – safe prime, balanced prime
 - 1369 – 37^2 , centered octagonal number
 - 1371 – sum of the first 28 primes
 - 1378 – triangular number
 - 1379 – magic constant of $n \times n$ normal magic square and n-Queens Problem for $n = 14$.
 - 1381 – centered pentagonal number
-

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- 1387 – super-Poulet number, decagonal number
- 1394 – sum of totient function for first 67 integers
- 1395 – vampire number, member of the Mian-Chowla sequence
- 1404 – heptagonal number
- 1405 – $26^2 + 27^2, 7^2 + 8^2 + \dots + 16^2$, centered square number
- 1406 – pronic number, semi-meandric number
- 1409 – Sophie Germain prime, smallest number whose eighth power is the sum of 8 eighth powers, Proth prime
- 1419 – Zeisel number
- 1425 – self-descriptive number in base 5
- 1426 – sum of totient function for first 68 integers
- 1426 – pentagonal number
- 1430 – Catalan number
- 1431 – triangular number, hexagonal number
- 1432 – member of Padovan sequence
- 1435 – vampire number; the standard railway gauge in millimetres, equivalent to 4' 8½"
- 1439 – Sophie Germain prime, safe prime
- 1440 – a highly totient number and a 481-gonal number. Also, the number of minutes in one day, the blocksize of a standard 3.5" floppy disk, and the horizontal resolution of WXGA(II) computer displays
- 1441 – star number
- 1444 – 38^2 , smallest pandigital number in Roman numerals
- 1451 – Sophie Germain prime
- 1469 – octahedral number, highly cototient number
- 1470 – pentagonal pyramidal number, sum of totient function for first 69 integers
- 1471 – centered heptagonal number
- 1480 – sum of the first 29 primes
- 1481 – Sophie Germain prime
- 1482 – pronic number
- 1485 – triangular number
- 1487 – safe prime
- 1490 – tetranacci number
- 1491 – nonagonal number, Mertens function zero
- 1492 – Mertens function zero
- 1493 – Stern prime
- 1494 – sum of totient function for first 70 integers
- 1496 – square pyramidal number
- 1499 – Sophie Germain prime
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1500–1749

- 1501 – centered pentagonal number
 - 1511 – Sophie Germain prime, balanced prime
 - 1513 – centered square number
 - 1518 – Mertens function zero
 - 1519 – Mertens function zero
 - 1520 – pentagonal number, Mertens function zero, forms a Ruth-Aaron pair with 1521 under second definition
 - 1521 – 39^2 , Mertens function zero, centered octagonal number, forms a Ruth-Aaron pair with 1520 under second definition
 - 1523 – Mertens function zero, safe prime, member of the Mian-Chowla sequence
 - 1524 – Mertens function zero
 - 1525 – heptagonal number, Mertens function zero
 - 1527 – Mertens function zero
 - 1528 – Mertens function zero
 - 1530 – vampire number
 - 1531 – Mertens function zero
 - 1532 – Mertens function zero
 - 1535 – Thabit number
 - 1537 – Keith number, Mertens function zero
 - 1540 – triangular number, hexagonal number, decagonal number, tetrahedral number
 - 1543 – Mertens function zero
 - 1544 – Mertens function zero
 - 1546 – Mertens function zero
 - 1556 – sum of the squares of the first nine primes
 - 1559 – Sophie Germain prime
 - 1560 – pronic number
 - 1564 – sum of totient function for first 71 integers
 - 1572 – member of the Mian-Chowla sequence
 - 1575 – odd abundant number
 - 1583 – Sophie Germain prime
 - 1588 – sum of totient function for first 72 integers
 - 1593 – sum of the first 30 primes
 - 1596 – triangular number
 - 1597 – Fibonacci number, Markov number, Prime number, emirp
 - 1600 – 40^2 , street number on Pennsylvania Avenue of the White House, Meters; Common High School Track Event, perfect score on SAT
 - 1601 – Sophie Germain prime, Proth prime, the novel *1601 (Mark Twain)*
 - 1616 – the year Shakespeare died
 - 1617 – pentagonal number
 - 1618 – centered heptagonal number
-

- 1619 – safe prime
- 1625 – centered square number
- 1626 – centered pentagonal number
- 1633 – star number
- 1638 – harmonic divisor number
- 1639 – nonagonal number
- 1640 – pronic number
- 1649 – highly cototient number, Leyland number
- 1651 – heptagonal number
- 1653 – triangular number, hexagonal number
- 1657 – cuban prime
- 1660 – sum of totient function for first 73 integers
- 1666 – largest efficient pandigital number in Roman numerals (each symbol occurs exactly once)
- 1679 – highly cototient number, semiprime (23×73 , see also Arecibo message)
- 1680 – highly composite number
- 1681 – 41^2 , smallest number yielded by the formula $n^2 + n + 41$ that is not a prime; centered octagonal number
- 1682 – member of a Ruth-Aaron pair (first definition)
- 1683 – member of a Ruth-Aaron pair (first definition)
- 1695 – magic constant of $n \times n$ normal magic square and n-Queens Problem for $n = 15$.
- 1696 – sum of totient function for first 74 integers
- 1701 – decagonal number, hull number of the U.S.S. Enterprise on *Star Trek*
- 1705 – tribonacci number
- 1709 – first of a sequence of eight primes formed by adding 57 in the middle. 1709, 175709, 17575709, 1757575709, 175757575709, 17575757575709, 1757575757575709 and 175757575757575709 are all prime, but $175757575757575709 = 232433 \times 75616446785773$
- 1711 – triangular number
- 1717 – pentagonal number
- 1720 – sum of the first 31 primes
- 1722 – Giuga number, pronic number
- 1728 – the quantity expressed as 1000 in duodecimal, that is, the cube of twelve (called a great gross), and so, the number of cubic inches in a cubic foot
- 1729** – taxicab number, Carmichael number, Zeisel number, centered cube number, Hardy-Ramanujan number. In the decimal expansion of e the first time all 10 digits appear in sequence starts at the 1729th decimal place. In 1979 the rock musical *Hair* closed on Broadway in New York City after 1729 performances.
- 1733 – Sophie Germain prime
- 1736 – sum of totient function for first 75 integers
- 1741 – centered square number
- 1747 – balanced prime

1750–1988

1753 – balanced prime

1756 – centered pentagonal number

1764 – 42^2

1770 – triangular number, hexagonal number, Town of Seventeen Seventy in Australia

1771 – tetrahedral number

1772 – centered heptagonal number, sum of totient function for first 76 integers

1782 – heptagonal number

1785 – square pyramidal number

1791 – largest natural number that cannot be expressed as a sum of at most four hexagonal numbers.

1794 – nonagonal number

1800 – pentagonal pyramidal number, also, in da Ponte's *Don Giovanni*, the number of women Don Giovanni had slept with so far when confronted by Donna Elvira, according to Leporello's tally

1801 – cuban prime

1806 – pronic number, product of first four terms of Sylvester's sequence, primary pseudoperfect number

1807 – fifth term of Sylvester's sequence

1811 – Sophie Germain prime

1820 – pentagonal number, pentatope number

1821 – member of the Mian-Chowla sequence

1823 – safe prime

1827 – vampire number

1828 – meandric number, open meandric number

1830 – triangular number

1832 – sum of totient function for first 77 integers

1834 – octahedral number, sum of the cubes of the first five primes

1836 – factor by which a proton is more massive than an electron

1837 – star number

1841 – Mertens function zero

1843 – Mertens function zero

1844 – Mertens function zero

1845 – Mertens function zero

1849 – 43^2 , centered octagonal number

1851 – sum of the first 32 primes

1853 – Mertens function zero

1854 – Mertens function zero

1856 – sum of totient function for first 78 integers

1857 – Mertens function zero

1861 – centered square number, Mertens function zero

1862 – Mertens function zero, forms a Ruth-Aaron pair with 1863 under second definition

1863 – Mertens function zero, forms a Ruth-Aaron pair with 1862 under second definition

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- 1864 – Mertens function zero
 - 1866 – Mertens function zero
 - 1870 – decagonal number
 - 1885 – Zeisel number
 - 1889 – Sophie Germain prime, highly cototient number
 - 1891 – triangular number, hexagonal number, centered pentagonal number
 - 1892 – pronic number
 - 1896 – member of the Mian-Chowla sequence
 - 1897 – member of Padovan sequence
 - 1900 – *1900* (film) or *Novecento*, 1977 movie
 - 1901 – Sophie Germain prime
 - 1907 – safe prime, balanced prime
 - 1918 – heptagonal number
 - 1926 – pentagonal number
 - 1929 – Mertens function zero
 - 1931 – Sophie Germain prime
 - 1933 – centered heptagonal number
 - 1934 – sum of totient function for first 79 integers
 - 1936 – 44^2
 - 1938 – Mertens function zero
 - 1951 – cuban prime
 - 1953 – triangular number
 - 1956 – nonagonal number
 - 1966 – sum of totient function for first 80 integers
 - 1969 – the movie *1969 (film)*
 - 1973 – Sophie Germain prime
 - 1980 – pronic number
 - 1984 – 11111000000 in binary, see also: 1984 (disambiguation)
 - 1985 – centered square number
 - 1988 – sum of the first 33 primes
-

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- [2] <http://msdn2.microsoft.com/en-us/library/0h88fahh>
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- [6] Higgins, *ibid.*

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List of numbers

This list is incomplete.

This is a **list of articles about numbers** (*not* about numerals).

Rational numbers

Natural numbers

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129
130	131	132	133	134	135	136	137	138	139
140	141	142	143	144	145	146	147	148	149
150	151	152	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169
170	171	172	173	174	175	176	177	178	179
180	181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198	199
200	201	202	203	204	205	206	207	208	209
210	211	212	213	214	215	216			
		220	230	240	250	260	270	280	290

		300	400	500	600	700	800	900	
1000	2000	3000	4000	5000	6000	7000	8000	9000	
10000	20000	30000	40000	50000	60000	70000	80000	90000	
	100k–1M	1M–10M		10M–100M		100M–1000M			
	Larger numbers								

Integers

Notable integers

Other numbers that are notable for their mathematical properties or cultural meanings include:

- -40 , an equal point in the Fahrenheit and Celsius scales.
- -1
- 0 , a number which quantifies a count or an amount of null size.
- 42 , the Answer to the Ultimate Question of Life, the Universe, and Everything according to the *Hitchhikers Guide to the Galaxy*
- 112 , emergency phone number in most European countries (following Directive 2002/22/EC - Universal Service Directive) and also standard on GSM mobile phones. 112 is used in Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Indonesia, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Republic of Macedonia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom (where it is used alongside the older 999 emergency services number).
- 255 , $2^8 - 1$
- 496 , a perfect number.
- 786 , regarded as sacred by some Muslims although there is no such evidence in the Quran or Hadith.
- 911 , the emergency phone number in the United States and Canada.
- 999 , the emergency phone number in the United Kingdom.
- 1729 , a taxicab number; the smallest number that can be written as the sum of two cubes in two different ways
- 142857 , a base 10 cyclic number.
- 2147483647 , $2^{31} - 1$, the maximum number that a 32-bit signed integer can reach.
- 9814072356 , the largest perfect power that contains no repeated digits

Named integers

- Graham's number
- Moser's number
- Shannon number
- Hardy-Ramanujan number
- Skewes' number
- Number of the Beast
- Leviathan number
- Kaprekar's constant

Prime numbers

A prime number is a positive integer which has exactly two divisors: one and itself.

The first 100 prime numbers:

2 3 5 7 11 13 17 19 23 29
 31 37 41 43 47 53 59 61 67 71
 73 79 83 89 97 101 103 107 109 113
 127 131 137 139 149 151 157 163 167 173
 179 181 191 193 197 199 211 223 227 229
 233 239 241 251 257 263 269 271 277 281
 283 293 307 311 313 317 331 337 347 349
 353 359 367 373 379 383 389 397 401 409
 419 421 431 433 439 443 449 457 461 463
 467 479 487 491 499 503 509 521 523 541

Perfect numbers

A perfect number is an integer that is the sum of its positive proper divisors (all divisors except itself).

The first 10 perfect numbers:

1	6
2	28
3	496
4	8 128
5	33 550 336
6	8 589 869 056
7	137 438 691 328
8	2 305 843 008 139 952 128
9	2 658 455 991 569 831 744 654 692 615 953 842 176
10	191 561 942 608 236 107 294 793 378 084 303 638 130 997 321 548 169 216

Cardinal numbers

In the following tables, **[and]** indicates that the word *and* is used in some dialects (such as British English), and omitted in other dialects (such as American English).

Small numbers

This table demonstrates the standard English construction of small cardinal numbers up to ten million—names for which all variants of English agree.

Value	Name	Alternate names, and names for sets of the given size
0	Zero	aught, cipher, cypher, goose egg, love, nada, naught, nil, none, nought, nowt, null, ought, oh, squat, zed, zilch, zip
1	One	ace, single, singleton, unary, unit, unity
2	Two	binary, brace, couple, couplet, distich, deuce, double, doubleton, duad, duality, duet, duo, dyad, pair, snake eyes, span, twain, twosome, yoke
3	Three	deuce-ace, leash, set, tercet, ternary, ternion, terzetto, threesome, tierce, trey, triad, trine, trinity, trio, triplet, troika, hat-trick
4	Four	foursome, quadruplet, quatern, quaternary, quaternion, quaternity, quartet, tetrad
5	Five	cinque, fin, fivesome, pentad, quint, quintet, quintuplet
6	Six	half dozen, hexad, sestet, sextet, sextuplet, sise
7	Seven	heptad, septet, septuplet
8	Eight	octad, octave, octet, octonary, octuplet, ogdoad
9	Nine	ennead
10	Ten	deca, decade, sawbuck
11	Eleven	onze, ounce, ounce
12	Twelve	dozen
13	Thirteen	baker's dozen, long dozen
14	Fourteen	
15	Fifteen	
16	Sixteen	
17	Seventeen	
18	Eighteen	
19	Nineteen	
20	Twenty	score
21	Twenty-one	
22	Twenty-two	
23	Twenty-three	
24	Twenty-four	two dozen
25	Twenty-five	
26	Twenty-six	
27	Twenty-seven	
28	Twenty-eight	
29	Twenty-nine	
30	Thirty	
31	Thirty-one	
40	Forty	
50	Fifty	half-century
60	Sixty	shock
70	Seventy	three-score and ten

80	Eighty	four-score
87	Eighty-seven	four-score and seven
90	Ninety	
100	One hundred	centred, century, ton, short hundred
101	One hundred [and] one	
110	One hundred [and] ten	
111	One hundred [and] eleven	
120	One hundred [and] twenty	long hundred, great hundred, (<i>obsolete</i>) hundred
121	One hundred [and] twenty-one	
144	One hundred [and] forty-four	gross, dozen dozen, small gross
200	Two hundred	
300	Three hundred	
666	Six Hundred [and] sixty-six	Number of the Beast
1 000	One thousand	chiliad, grand (or G), thou, yard, kilo (often shortened to k)
1 001	One thousand [and] one	
1 010	One thousand [and] ten	
1 011	One thousand [and] eleven	
1 024	One thousand [and] twenty-four	kibi or kilo in computing, see binary prefix (kilo is shortened to k, Kibi to Ki)
1 100	One thousand one hundred	
1 101	One thousand one hundred [and] one	
1 728	One thousand seven hundred [and] twenty-eight	great gross, long gross, dozen gross
2 000	Two thousand	
10 000	Ten thousand	myriad
100 000	One hundred thousand	lakh
500 000	Five hundred thousand	crore (Iranian)
1 000 000	One million	Mega, meg, mil, (often shortened to M)
1 048 576	One million forty-eight thousand five hundred [and] seventy-six	Mibi or Mega in computing, see binary prefix (Mega is shortened to M, Mibi to Mi)
10 000 000	Ten million	crore (Indian)

English names for powers of 10

This table compares the English names of cardinal numbers according to various American, British, and Continental European conventions. See names of numbers in English or English-language numerals for more information on naming numbers.

Value	Short scale		Long scale		Power	
	American	British (Nicolas Chuquet)	Continental European (Jacques Peletier du Mans)	of a thousand	of a million	
10^0	One			1000^{-1+1}	1000000^0	
10^1	Ten					
10^2	Hundred					
10^3	Thousand			1000^{0+1}	$1000000^{0.5}$	
10^6	Million			1000^{1+1}	1000000^1	
10^9	Billion	Thousand million	Milliard	1000^{2+1}	$1000000^{1.5}$	
10^{12}	Trillion	Billion		1000^{3+1}	1000000^2	
10^{15}	Quadrillion	Thousand billion	Billiard	1000^{4+1}	$1000000^{2.5}$	
10^{18}	Quintillion	Trillion		1000^{5+1}	1000000^3	
10^{21}	Sextillion	Thousand trillion	Trilliard	1000^{6+1}	$1000000^{3.5}$	
10^{24}	Septillion	Quadrillion		1000^{7+1}	1000000^4	
10^{27}	Octillion	Thousand quadrillion	Quadrilliard	1000^{8+1}	$1000000^{4.5}$	
10^{30}	Nonillion	Quintillion		1000^{9+1}	1000000^5	
10^{33}	Decillion	Thousand quintillion	Quintilliard	1000^{10+1}	$1000000^{5.5}$	
10^{36}	Undecillion	Sextillion		1000^{11+1}	1000000^6	
10^{39}	Duodecillion	Thousand sextillion	Sextilliard	1000^{12+1}	$1000000^{6.5}$	
10^{42}	Tredecillion	Septillion		1000^{13+1}	1000000^7	
10^{45}	Quattuordecillion	Thousand septillion	Septilliard	1000^{14+1}	$1000000^{7.5}$	
10^{48}	Quindecillion	Octillion		1000^{15+1}	1000000^8	
10^{51}	Sexdecillion	Thousand octillion	Octilliard	1000^{16+1}	$1000000^{8.5}$	
10^{54}	Septendecillion	Nonillion		1000^{17+1}	1000000^9	
10^{57}	Octodecillion	Thousand nonillion	Nonilliard	1000^{18+1}	$1000000^{9.5}$	
10^{60}	Novemdecillion	Decillion		1000^{19+1}	1000000^{10}	
10^{63}	Vigintillion	Thousand decillion	Decilliard	1000^{20+1}	$1000000^{10.5}$	
10^{66}	Unvigintillion	Undecillion		1000^{21+1}	1000000^{11}	
10^{69}	Duovigintillion	Thousand undecillion	Undecilliard	1000^{22+1}	$1000000^{11.5}$	
10^{72}	Trevigintillion	Duodecillion		1000^{23+1}	1000000^{12}	
10^{75}	Quattuorvigintillion	1000^{24+1}	$1000000^{12.5}$	
...	
10^{93}	Trigintillion	Thousand quindecillion	Quindecilliard	1000^{30+1}	$1000000^{15.5}$	

...
10^{120}	Novemtrigintillion	Vigintillion		1000^{39+1}	1000000^{20}
10^{123}	Quadragesimillion	Thousand vigintillion	Vigintilliard	1000^{40+1}	$1000000^{20.5}$
...
10^{153}	Quinquagesimillion	Thousand quinquagesimillion	Quinquagesimilliard	1000^{50+1}	$1000000^{25.5}$
...
10^{180}	Novemquingentillion	Trigintillion		1000^{59+1}	1000000^{30}
10^{183}	Sexagesimillion	Thousand trigintillion	Trigintilliard	1000^{60+1}	$1000000^{30.5}$
...
10^{213}	Septuagesimillion	Thousand quinquagesimillion	Quinquagesimilliard	1000^{70+1}	$1000000^{35.5}$
...
10^{240}	Novemseptuagesimillion	Quadragesimillion		1000^{79+1}	1000000^{40}
10^{243}	Octogintillion	Thousand quadragesimillion	Quadragesimilliard	1000^{80+1}	$1000000^{40.5}$
...
10^{273}	Nonagesimillion	Thousand quinquagesimillion	Quinquagesimilliard	1000^{90+1}	$1000000^{45.5}$
...
10^{300}	Novemnonagesimillion	Quinquagesimillion		1000^{99+1}	1000000^{50}
10^{303}	Centillion	Thousand quinquagesimillion	Quinquagesimilliard	1000^{100+1}	$1000000^{50.5}$
...
10^{360}		Sexagesimillion		1000^{119+1}	1000000^{60}
10^{420}		Septuagesimillion		1000^{139+1}	1000000^{70}
10^{480}		Octogintillion		1000^{159+1}	1000000^{80}
10^{540}		Nonagesimillion		1000^{179+1}	1000000^{90}
10^{600}		Centillion		1000^{199+1}	1000000^{100}
10^{603}	Ducentillion	Thousand Centillion	Centilliard	1000^{200+1}	$1000000^{100.5}$

There is no consistent and widely accepted way to extend cardinals beyond centillion (centilliard).

Proposed systematic names for powers of 10**Gillion system**

In 2001, Russ Rowlett, Director of the Center for Mathematics and Science Education at the University of North Carolina at Chapel Hill proposed that, to avoid confusion, the Latin based short scale and long scale systems should be replaced by an unambiguous system using Greek-derived numerical prefixes for naming large numbers that would be based on powers of one thousand: ^[1]

Value	Name
10^3	Thousand
10^6	Million
10^9	Gillion
10^{12}	Tetrillion
10^{15}	Pentillion
10^{18}	Hexillion
10^{21}	Heptillion
10^{24}	Oktilion
10^{27}	Ennillion
10^{30}	Dekillion

Value	Name
10^{33}	Hendekillion
10^{36}	Dodekillion
10^{39}	Trisdekillion
10^{42}	Tetradekillion
10^{45}	Pentadekillion
10^{48}	Hexadekillion
10^{51}	Heptadekillion
10^{54}	Oktaadekillion
10^{57}	Enneadekillion
10^{60}	Icosillion

Value	Name
10^{63}	Icosihenillion
10^{66}	Icosidillion
10^{69}	Icositrillion
10^{72}	Icositetrillion
10^{75}	Icosipentillion
10^{78}	Icosihexillion
10^{81}	Icosiheptillion
10^{84}	Icosioctillion
10^{87}	Icosiennillion
10^{90}	Triacentillion

Myriad system

Proposed by Donald E. Knuth:

Value	Name	Notation
10^0	One	1
10^1	Ten	10
10^2	Hundred	100
10^3	Ten hundred	1000
10^4	Myriad	1,0000
10^5	Ten myriad	10,0000
10^6	Hundred myriad	100,0000
10^7	Ten hundred myriad	1000,0000
10^8	Myllion	1;0000,0000
10^{12}	Myriad myllion	1,0000;0000,0000
10^{16}	Byllion	1:0000,0000;0000,0000
10^{24}	Myllion byllion	1;0000,0000:0000,0000;0000,0000
10^{32}	Tryllion	1'0000,0000;0000,0000:0000,0000;0000,0000
10^{64}	Quadryllion	1'0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000
10^{128}	Quintyllion	1'0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000

10^{256}	Sextyllion	1'0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000 '0000,0000;0000,0000:0000,0000;0000,0000
10^{512}	Septyllion	
10^{1024}	Octyllion	
10^{2048}	Nonyllion	
10^{4096}	Decyllion	
10^{8192}	Undecyllion	
$10^{16,384}$	Duodecyllion	
$10^{32,768}$	Tredecyllion	
$10^{65,536}$	Quattuordecyllion	
$10^{131,072}$	Quindecyllion	
$10^{262,144}$	Sexdecyllion	
$10^{524,288}$	Septendecyllion	
$10^{1,048,576}$	Octodecyllion	
$10^{2,097,152}$	Novemdecyllion	
$10^{4,194,304}$	Vigintyllion	
$10^{8,388,608}$	Cafarolion	
$10^{16,777,216}$	Saralion	
$10^{4 \cdot 2^{40}}$	Quadragintyllion	
$10^{4 \cdot 2^{50}}$	Quinquagintyllion	
$10^{4 \cdot 2^{60}}$	Sexagintyllion	
$10^{4 \cdot 2^{70}}$	Septuagintyllion	
$10^{4 \cdot 2^{80}}$	Octogintyllion	
$10^{4 \cdot 2^{90}}$	Nonagintyllion	
$10^{4 \cdot 2^{100}}$	Centyllion	
$10^{4 \cdot 2^{1000}}$	Millyllion	
$10^{4 \cdot 2^{10000}}$	Myryllion	

SI-derived

Value	SI prefix	Name	Binary prefix	Value
1 000	k	Kilo (k)	Ki	1024
1 000 000	M	Mega (M)	Mi	1 048 576
1 000 000 000	G	Giga	Gi	1 073 741 824

Fractional numbers

This is a table of English names for positive rational numbers less than or equal to 1. It also lists alternative names, but there is no widespread convention for the names of extremely small positive numbers.

Keep in mind that rational numbers like 0.12 can be represented in infinitely many ways, e.g. *zero-point-one-two* (0.12), *twelve percent* (12%), *three twenty-fifths* $\left(\frac{3}{25}\right)$, *nine seventy-fifths* $\left(\frac{9}{75}\right)$, *six fiftieths* $\left(\frac{6}{50}\right)$, *twelve hundredths* $\left(\frac{12}{100}\right)$, *twenty-four two-hundredths* $\left(\frac{24}{200}\right)$, etc.

Value	Fraction	Common names	Alternative names
1	$\frac{1}{1}$	One	0.999...
0.9	$\frac{9}{10}$	Nine tenths, [zero] point nine	
0.8	$\frac{4}{5}$	Four fifths, eight tenths, [zero] point eight	
0.7	$\frac{7}{10}$	Seven tenths, [zero] point seven	
0.6	$\frac{3}{5}$	Three fifths, six tenths, [zero] point six	
0.5	$\frac{1}{2}$	One half, five tenths, [zero] point five	
0.4	$\frac{2}{5}$	Two fifths, four tenths, [zero] point four	
0.3 (333 333)...	$\frac{1}{3}$	One third	
0.3	$\frac{3}{10}$	Three tenths, [zero] point three	
0.25	$\frac{1}{4}$	One quarter, one fourth, twenty-five hundredths, [zero] point two five	
0.2	$\frac{1}{5}$	One fifth, two tenths, [zero] point two	
0.16 (666 666)...	$\frac{1}{6}$	One sixth	
0.142 857 (142 857)...	$\frac{1}{7}$	One seventh	
0.125	$\frac{1}{8}$	One eighth, one-hundred-[and-]twenty-five thousandths, [zero] point one two five	
0.1 (111 111)...	$\frac{1}{9}$	One ninth	
0.1	$\frac{1}{10}$	One tenth, [zero] point one	One perdecime, one perdime

0.090 (909 090)...	$\frac{1}{11}$	One eleventh	
0.09	$\frac{9}{100}$	Nine hundredths, [zero] point zero nine	
0.083 (333 333)...	$\frac{1}{12}$	One twelfth	
0.08	$\frac{2}{25}$	Two twenty-fifths, eight hundredths, [zero] point zero eight	
0.0625	$\frac{1}{16}$	One sixteenth, six-hundred-[and-]twenty-five ten-thousandths, [zero] point zero six two five	
0.05	$\frac{1}{20}$	One twentieth, [zero] point zero five	
0.047 619 (047 619)...	$\frac{1}{21}$	One twenty-first	
0.045 (454 545)...	$\frac{1}{22}$	One twenty-second	
0.043 478 260 869 565 217 3913 (043 478)...	$\frac{1}{23}$	One twenty-third	
0.03 (333 333)...	$\frac{1}{30}$	One thirtieth	
0.016 (666 666)...	$\frac{1}{60}$	One sixtieth	One minute
0.012345679 (012345679)...	$\frac{1}{81}$	One eighty-first	
0.01	$\frac{1}{100}$	One hundredth, [zero] point zero one	One percent
0.001	$\frac{1}{1000}$	One thousandth, [zero] point zero zero one	One permille
0.000 27 (777 777)...	$\frac{1}{3600}$	One thirty-six hundredth	One second
0.000 1	$\frac{1}{10000}$	One ten-thousandth, [zero] point zero zero zero one	One myriadth, one permyria, one permyriad, one basis point
0.000 01	$\frac{1}{10^5}$	One hundred-thousandth	One lakhth, one perlakh
0.000 001	$\frac{1}{10^6}$	One millionth	One perion, one ppm
0.000 000 1	$\frac{1}{10^7}$	One ten-millionth	One crotch, one percrore
0.000 000 01	$\frac{1}{10^8}$	One hundred-millionth	One awkth, one perawk
0.000 000 001	$\frac{1}{10^9}$	One billionth (in some dialects)	One ppb
0	$\frac{0}{1}$	Zero	

Irrational and suspected irrational numbers

Algebraic numbers

Expression	Approximate value	Notes
$\frac{\sqrt{5}-1}{2}$	0.618 033 988 749 894 848 204 586 834 366	Golden ratio conjugate Φ , reciprocal of and one less than the golden ratio.
$\sqrt[12]{2}$	1.059 463 094 359 295 264 561 825 294 946	Twelfth root of two. Proportion between the frequencies of adjacent semitones in the equal temperament scale.
$\sqrt[3]{2}$	1.259 921 049 894 873 164 767 210 607 278	Cube root of two. Length of the edge of a cube with volume two. See doubling the cube for the significance of this number.
n/a	1.303 577 269 034 296 391 257 099 112 153	Conway's constant, defined as the unique positive real root of a certain polynomial of degree 71.
$\sqrt[3]{\frac{1}{2} + \frac{1}{6}\sqrt{\frac{23}{3}}} + \sqrt[3]{\frac{1}{2} - \frac{1}{6}\sqrt{\frac{23}{3}}}$	1.324 717 957 244 746 025 960 908 854 478	Plastic number, the unique real root of the cubic equation $x^3 = x + 1$.
$\sqrt{2}$	1.414 213 562 373 095 048 801 688 724 210	$\sqrt{2} = 2 \sin 45^\circ = 2 \cos 45^\circ$ Square root of two a.k.a. Pythagoras' constant. Ratio of diagonal to side length in a square. Proportion between the sides of paper sizes in the ISO 216 series (originally DIN 476 series).
$\frac{\sqrt{5}+1}{2}$	1.618 033 988 749 894 848 204 586 834 366	Golden ratio (ϕ), the larger of the two real roots of $x^2 = x + 1$.
$\sqrt{3}$	1.732 050 807 568 877 293 527 446 341 506	$\sqrt{3} = 2 \sin 60^\circ = 2 \cos 30^\circ$ Square root of three a.k.a. <i>the measure of the fish</i> . Length of the space diagonal of a cube with edge length 1. Length of the diagonal of a $1 \times \sqrt{2}$ rectangle. Altitude of an equilateral triangle with side length 2. Twice the altitude of an equilateral triangle with side length 1. Altitude of a regular hexagon with side length 1 and diagonal length 2.
$\sqrt{5}$	2.236 067 977 499 789 696 409 173 668 731	Square root of five. Length of the diagonal of a 1×2 rectangle. Length of the diagonal of a $\sqrt{2} \times \sqrt{3}$ rectangle. Length of the space diagonal of a $1 \times \sqrt{2} \times \sqrt{2}$ rectangular box.
$\sqrt{2} + 1$	2.414 213 562 373 095 048 801 688 724 210	Silver ratio (δ_S), the larger of the two real roots of $x^2 = 2x + 1$.
$\sqrt{6}$	2.449 489 742 783 178 098 197 284 074 706	$\sqrt{2} \cdot \sqrt{3}$ = area of a $\sqrt{2} \times \sqrt{3}$ rectangle. Length of the space diagonal of a $1 \times 1 \times 2$ rectangular box. Length of the diagonal of a $1 \times \sqrt{5}$ rectangle. Length of the diagonal of a $2 \times \sqrt{2}$ rectangle. Length of the diagonal of a square with side length $\sqrt{3}$.
$\sqrt{7}$	2.645 751 311 064 590 590 501 615 753 639	Length of the space diagonal of a $1 \times 2 \times \sqrt{2}$ rectangular box. Length of the diagonal of a $1 \times \sqrt{6}$ rectangle. Length of the diagonal of a $2 \times \sqrt{3}$ rectangle. Length of the diagonal of a $\sqrt{2} \times \sqrt{5}$ rectangle.

Suspected transcendentals

- Heath-Brown–Moroz constant: $C = 0.001317641\dots$
- Kepler–Bouwkamp constant: $0.1149420448\dots$
- MRB constant: $0.187859\dots$
- Meissel–Mertens constant: $M = 0.2614972128476427837554268386086958590516\dots$
- Bernstein's constant: $\beta = 0.2801694990\dots$
- Strongly carefree constant: $0.286747\dots$
- Gauss–Kuzmin–Wirsing constant: $\lambda_1 = 0.3036630029\dots$ [3]
- Hafner–Sarnak–McCurley constant: $0.3532363719\dots$
- Artin's constant: $0.3739558136\dots$
- Prime constant: $\rho = 0.414682509851111660248109622\dots$
- Carefree constant: $0.428249\dots$
- Omega constant: $\Omega = 0.5671432904097838729999686622\dots$
- Stephens' constant: $0.575959\dots$
- Euler–Mascheroni constant: $\gamma = 0.577215664901532860606512090082\dots$
- Golomb–Dickman constant: $\lambda = 0.62432998854355087099293638310083724\dots$
- Twin prime constant: $C_2 = 0.660161815846869573927812110014\dots$
- Feller-Tornier constant: $0.661317\dots$
- Laplace limit: $\varepsilon = 0.6627434193\dots$ [4]
- Taniguchi's constant: $0.678234\dots$
- $\ln 2$: $0.693147180559945309417232121458\dots$
- Embree–Trefethen constant: $\beta^* = 0.70258\dots$
- Sarnak's constant: $0.723648\dots$
- Landau–Ramanujan constant: $0.76422365358922066299069873125\dots$
- Brun's constant for prime quadruplets: $B_2 = 0.8705883800\dots$
- Quadratic class number constant: $0.881513\dots$
- Catalan's constant: $G = 0.91596594177219015054603514932384110774\dots$
- Viswanath's constant: $\sigma(1) = 1.13198824\dots$
- Apéry's constant: $\zeta(3) = 1.202056903159594285399738161511449990764986292\dots$
- Vardi's constant: $E = 1.264084735305\dots$
- Glaisher–Kinkelin constant: $A = 1.28242712\dots$
- Mills' constant: $A = 1.30637788386308069046\dots$
- Totient summatory constant: $1.339784\dots$
- Ramanujan–Soldner constant: $\mu = 1.451369234883381050283968485892027449493\dots$
- Backhouse's constant: $1.456074948\dots$
- Lieb's square ice constant: $1.5396007\dots$
- $\sqrt{2}_s$: $1.559610469\dots$
- Erdős–Borwein constant: $E = 1.606695152415291763\dots$
- Somos' quadratic recurrence constant: $\sigma = 1.661687949633594121296\dots$
- Niven's constant: $c = 1.705211\dots$
- Brun's constant: $B_2 = 1.902160583104\dots$
- Landau's totient constant: $1.943596\dots$
- Feigenbaum constant: $\alpha = 2.5029\dots$
- Sierpiński's constant: $K = 2.5849817595792532170658936\dots$
- Barban's constant: $2.596536\dots$
- Khinchin's constant: $K_0 = 2.685452001\dots$ [5]
- Fransén–Robinson constant: $F = 2.8077702420\dots$

- Murata's constant: 2.826419...
- Lévy's constant: $\gamma = 3.275822918721811159787681882\dots$
- Reciprocal Fibonacci constant: $\psi = 3.359885666243177553172011302918927179688905133731\dots$
- Feigenbaum constant: $\delta = 4.6692\dots$

Numbers not known with high precision

- Landau's constant: $0.4330 < B < 0.472$
- Landau's constant: $0.5 < L < 0.544$
- Landau's constant: $0.5 < A < 0.7853$
- Grothendieck constant: $1.67 < k < 1.79$

Hypercomplex numbers

Algebraic complex numbers

- Imaginary unit: $i = \sqrt{-1}$
- n th roots of unity: $\xi_n^k = \cos\left(2\pi\frac{k}{n}\right) + i \sin\left(2\pi\frac{k}{n}\right)$

Other hypercomplex numbers

- The quaternions
- The octonions
- The sedenions
- The dual numbers (with an infinitesimal)

Transfinite numbers

- Infinity in general: ∞
- Aleph-null: \aleph_0
- Aleph-one: \aleph_1
- Beth-one: (\beth_1) is the cardinality of the continuum: 2^{\aleph_0}

Numbers representing measured quantities

- Pair: 2 (the base of the binary numeral system)
- Dozen: 12 (the base of the duodecimal numeral system)
- Baker's dozen: 13
- Score: 20 (the base of the vigesimal numeral system)
- Gross: 144 (= 12^2)
- Great gross: 1728 (= 12^3)

Numbers representing scientific quantities

- Planck constant: $h = 6.6260689633... \times 10^{-34}$ Js
- Electronvolt: $eV = 1.60217648740... \times 10^{-19}$ J
- Electron relative atomic mass: $A_r(e) = 0.0005485799094323...$
- Molar mass constant: $M_u = 0.001$ kg/mol
- Fine structure constant: $\alpha = 0.007297352537650...$
- Rydberg constant: $R_\infty = 10973731.56852773... \text{ m}^{-1}$
- Speed of light in vacuum: $c = 299792458$ m/s
- Avogadro constant: $N_A = 6.0221417930... \times 10^{23}$ mol⁻¹

Bases

- Base -10 (negadecimal)
- Base -3 (negaternary)
- Base -2 (negabinary)
- Base 1 (unary)
- Base 2 (binary)
- Base 3 (ternary or trinary, see also balanced ternary)
- Base 4 (quaternary)
- Base 5 (quinary)
- Base 6 (senary or heximal)
- Base 7 (septenary)
- Base 8 (octal)
- Base 9 (nonary)
- Base 10 (decimal)
- Base 11 (undecimal)
- Base 12 (duodecimal or dozenal)
- Base 13 (tridecimal or tredecimal)
- Base 14 (tetradecimal)
- Base 15 (pentadecimal)
- Base 16 (hexadecimal)
- Base 20 (vigesimal)
- Base 24 (quadrovigesimal)
- Base 26 (hexavigesimal)
- Base 27 (septemvigesimal)
- Base 30 (trigesimal)
- Base 32 (duotrigesimal)
- Base 36 (hexatridecimal, sextatrigesimal or hexatrigesimal)
- Base 60 (sexagesimal)
- Mixed radix
- Non-integer base (base φ , base plastic number, base e , base π , base $\sqrt{2}$)
- Complex base (base $2i$, base $-1 \pm i$)

See also *positional systems* of numeral system for bases which might not be listed here.

See also

- English-language numerals
- Numbers in various languages
- Number prefix
- Floating point
- Fraction (mathematics)
- Interesting number paradox
- Large number
- List of prime numbers
- Mathematical constant
- Names of large numbers
- Negative number
- Number names
- Orders of magnitude (numbers)
- Ordinal number
- *The Penguin Dictionary of Curious and Interesting Numbers*
- SI prefix
- Small number
- Surreal number
- Table of prime factors

Notes

- [1] Rowlett, Russ (2001-11-01). "Names for large numbers" (<http://www.unc.edu/~rowlett/units/large.html>). University of North Carolina. . Retrieved 2008-01-31.
- [2] <http://mathworld.wolfram.com/Khinchin-LevyConstant.html>
- [3] <http://mathworld.wolfram.com/Gauss-Kuzmin-WirsingConstant.html>
- [4] <http://mathworld.wolfram.com/LaplaceLimit.html>
- [5] <http://mathworld.wolfram.com/KhinchinsConstant.html>

Further reading

- *Kingdom of Infinite Number: A Field Guide* by Bryan Bunch, W.H. Freeman & Company, 2001. ISBN 0-7167-4447-3

External links

- The Database of Number Correlations: 1 to 2000+ (<http://www.virtuescience.com/number.html>)
- What's Special About This Number? A Zoology of Numbers: from 0 to 500 (http://www.archimedes-lab.org/numbers/Num1_69.html)
- See how to write big numbers (<http://www.mathcats.com/explore/reallybignumbers.html>)
- The MegaPenny Project - Visualizing big numbers (<http://www.kokogiak.com/megapenny/>)
- About big numbers (<http://pages.prodigy.net/jhonig/bignum/indx.html>)
- Robert P. Munafo's Large Numbers page (<http://www.mrob.com/pub/math/largenum.html>)
- Different notations for big numbers - by Susan Stepney (<http://www-users.cs.york.ac.uk/~susan/cyc/b/big.htm>)
- Names for Large Numbers (<http://www.unc.edu/~rowlett/units/large.html>), in *How Many? A Dictionary of Units of Measurement* by Russ Rowlett
- What's Special About This Number? (<http://www.stetson.edu/~efriedma/numbers.html>) (from 0 to 9999)

Number names

In linguistics, **number names** (or **numerals**) are specific words in a natural language that represent numbers.

In writing, numerals are symbols also representing numbers. In mathematics (including computing) there are other meanings and definitions of numbers, over the different stages of the history of science.

Numeral types

In linguistics, the terms representing numbers can be classified according to their use:^[1]

- **Cardinal numerals:** describe quantity - *one, two, three*, etc.
- **Ordinal numerals:** describe position in a sequential order - *first, second, third*, etc. (the terms *next* and *last* may also be considered a kind of ordinals)
 - **Ranking numerals:** describe order, based on relevance or importance - *primary, secondary, tertiary*, etc.
- **Partitive numerals:** describe division into fractions - *half, third, quarter*, etc. (including *most* and *least*)
 - **Composite numerals:** describe composition - *unary, binary, ternary*, etc.
- **Multiplicative numerals:** describe repetition - *once, twice, thrice*, etc.
 - **Reproductive numerals:** describe replication - *single, double, triple*, etc. (to include multiple)
- **Collective numerals:** describe groups composed of several individual entities - *pair, triad, dozen*, etc.
- **Distributive numerals:** describe an alternating pattern - *each person (one), every other week* (entailing two weeks), *every three eggs*, etc.

Note that the English language does not have distinct distributive numerals (though it does have distributive adjectives/pronouns, such as *each, either* and *every*), but some other languages such as Georgian^[2] and Latin do have them; e.g., Latin *singuli* ("one by one"), *bini* ("in pairs", "by twos"), *terni* ("three each"), etc.

Basis of counting system

Numeral systems by culture	
Hindu-Arabic numerals	
Western Arabic	Khmer
Eastern Arabic	Mongolian
Indian family	Thai
Burmese	
East Asian numerals	
Chinese	Korean
Japanese	Vietnamese
<i>Suzhou</i>	<i>Counting rods</i>
Alphabetic numerals	
Abjad	Ge'ez
Armenian	Greek (Ionian)
Āryabhaṭa	Hebrew
Cyrillic	
Other systems	

Aegean	Inuit
Attic	Mayan
Babylonian	Quipu
Brahmi	Roman
Egyptian	Sumerian
Etruscan	Urnfield
List of numeral system topics	
Positional systems by base	
Decimal (10)	
1, 2, 3, 4, 5, 6, 8, 12, 16, 20, 30, 36, 60 more...	

Not all peoples count. Specifically, there is not much need for counting among hunter-gatherers who do not engage in commerce. Many languages around the world have no numerals above two to four,—or at least didn't before contact with the colonial societies,—and speakers of these languages may have no tradition of using the numerals they did have for counting. Indeed, several languages from the Amazon have been independently reported to have no numerals other than 'one'; it's arguable that such a system should not be considered a separate word class of 'numeral' at all. These include Nadëb, pre-contact Mocoví and Pilagá, Culina and pre-contact Jarawara, Jabutí, Canela-Krahô, Botocudo (Krenák), Chiquitano, the Campa languages, Arabela, and Achuar.^[3]

4: quaternary

Some Austronesian and Melanesian ethnic groups, including the Māori, some Sulawesi and some Papua New Guineans count instead of by five, using the base number four, using the term *asu* and *aso* (derived from Javanese *asu*: dog)- as the ubiquitous village dog has four legs^[4]. This is argued by anthropologists to be also based on early humans noting the human and animal shared body feature of two arms and two legs as well as its ease in simple arithmetic and counting. As an example of the system's ease a realistic scenario could include a farmer returning from the market with fifty *asu* heads of pig (200), less 30 *asu* (120) of pig bartered for 10 *asu* (40) of goats noting his new pig count total as twenty*asu*: 80 pigs remaining. The system has a correlation to the dozen counting system and is still in common use in these areas as a natural and easy method of simple arithmetic.^{[4] [5]}

5: quinary

Quinary systems are based on the number 5. It is almost certain quinary system developed from counting by fingers (five fingers per hand)^[6]. It is common since the days of the ancient Babylonians and found in almost every culture worldwide. It is present in the Celtic and Banish systems and the Inuit languages^[6]. The ancient Greek Bëotius records that the term digit is exactly that as used to describe fingers- still present today^[6].

8: octal

Octal is a counting system based on the number 8. It is used in the Yuki language of California and in the Pamean languages of Mexico, because the Yuki and Pamean keep count by using the four spaces between their fingers rather than the fingers (five) themselves.^[7]

10: decimal

A majority of traditional number systems are based on the decimal numeral system. Anthropologists hypothesize this may be due to humans having five digits per hand, ten in total.^{[6] [8] [9]} There are many regional variations including:

- Western system: based on thousands, with variants (see English-language numerals)
- Indian system: crore, lakh (see Indian numbering system. Indian numerals)
- East Asian system: based on ten-thousands (see below)

Historically, its use was first employed by the ancient Egyptians, who invented a wholly decimal system, and later extended by the Babylonians^[6] and also a system of pictorial representation, substituting letters and other reminders with symbols. English farmer coined the term *notch*: defined as ten. from the tally sticks of the livestock- a full deep *score for every twenty, a half score or notch pret half score- or ten.*^[10]

12: duodecimal

Duodecimal numbers or systems based on the base unit of 12, are a frequent occurrence.

These include:

- Chepang language of Nepal,
- Mahl language of Minicoy Island in India
- Nigerian Middle Belt areas such as Janji, Kahugu and the Nimbria dialect of Gwandara.
- modern English (from the proto-Germanic)
- modern German (from the proto-Germanic)
- Indonesian (Javanese *losin/dhosin*: Indonesian 'lusin *and* dosin)
- Austronesia (*lusin*)
- Melanesia
- Polynesia

Duodecimal numeric systems have some practical advantages over decimal. It is much easier to divide the base digit twelve (which is a highly composite number) by many important divisors in market and trade settings, such as the numbers 2, 3, 4 and 6. It is still common usage and is found in idiom. For example, "A dime a dozen" refers to something so common or numerous as to be of little worth or noteworthiness.

The system of basing counting on the number 12, is widespread, across many cultures. Examples include:

- time divisions (twelve months in a year, the twelve-hour clock)
- measurement imperial system of units (twelve inches to the foot, twelve Troy ounces to the Troy pound)
- traditional British monetary system (twelve pence to the shilling)

Consequently, languages evolved or loaned terms such *dozen*, *gross* and *great gross*, which allow for rudimentary and arguably immediately comprehensible duodecimal nomenclature (e.g., stating: "two gross and six dozen" instead of "three hundred and sixty"). Ancient Romans used decimal for integers, but switched to duodecimal for fractions, and correspondingly Latin developed a rich vocabulary for duodecimal-based fractions (see Roman numerals). A notable fictional duodecimal system was that of J. R. R. Tolkien's Elvish languages, which used duodecimal as well as decimal.

20: vigesimal

Vigesimal numbers use the number 20 as the base number for counting. Anthropologists are convinced the system originated from digit counting, as did bases five and ten - twenty being the number of human fingers and toes combined^{[6] [8]} The system is in widespread use across the world. Some include the classical Mesoamerican cultures, still in use today in the modern indigenous languages of their descendants, namely the Nahuatl and Mayan languages (see also Maya numerals). Vigesimal terminology is also found in some European languages: Basque, Celtic languages, French (from Celtic languages), Danish and Georgian. The term *score* originates from tally sticks, where

taxmen and farmers would groove a *notch* for every ten, and a full score for every twenty. The English term *score*, now rarely used, is a remnant of vigesimal numeration in the word *score*. It was widely used to learn the pre-decimal British currency in this idiom: "a dozen pence and a score of bob" , referring to the 20 shillings in a pound. For Americans the term is most known from the opening of the Gettysburg Address: "*Four score and seven years ago, our fathers...*".

For very large (and very small) numbers, traditional systems have been superseded by the use of scientific notation and the system of SI prefixes. Traditional systems continue to be used in everyday life.

Numeral symbols

The numbers one through ten in different numeral systems

Arabic	١	٢	٣	٤	٥	٦	٧	٨	٩	١٠
Bangla (Bengali)	১	২	৩	৪	৫	৬	৭	৮	৯	১০
Burmese	၀	၀	၀	၀	၀	၀	၀	၀	၀	၀၀
Chinese	一	二	三	四	五	六	七	八	九	十
Devanagari	१	२	३	४	५	६	७	८	९	१०
Classical Greek	α'	β'	γ'	δ'	ε'	στ'	ζ'	η'	θ'	ι'
Hebrew	א	ב	ג	ד	ה	ו	ז	ח	ט	י
Hieroglyphic Egyptian	𓆎	𓆏	𓆐	𓆑	𓆒	𓆓	𓆔	𓆕	𓆖	𓆗
West Arabic	1	2	3	4	5	6	7	8	9	10
Malayalam	൧	൨	൩	൪	൫	൬	൭	൮	൯	൧൦
Phoenician	𐤀	𐤁	𐤂	𐤃	𐤄	𐤅	𐤆	𐤇	𐤈	𐤉
Roman	I	II	III	IV	V	VI	VII	VIII	IX	X
Suzhou	丨			×	𠄎	𠄎	𠄎	文	丨〇	
Telugu	౧	౨	౩	౪	౫	౬	౭	౮	౯	౧౦
Tamil	௧	௨	௩	௪	௫	௬	௭	௮	௯	௧௦
Thai	๑	๒	๓	๔	๕	๖	๗	๘	๙	๑๐

History

Counting aids, especially the use of body parts (counting on fingers), were certainly used in prehistoric times as today. There are many variations. Besides counting 10 fingers, some cultures have counted knuckles, the space between fingers, and toes as well as fingers. The Oksapmin culture of New Guinea uses a system of 27 upper body locations to represent numbers.

To preserve numerical information, tallies carved in wood, bone, and stone have been used since prehistoric times. Stone age cultures, including ancient American Indian groups, used tallies for gambling, personal services, and trade-goods.

A method of preserving numeric information in clay was invented by the Sumerians between 8000 and 3500 BCE. This was done with small clay tokens of various shapes that were strung like beads on a string. Beginning about 3500 BCE clay tokens were gradually replaced by number signs impressed with a round stylus at different angles in clay tablets (originally containers for tokens) which were then baked. About 3100 BCE written numbers were dissociated from the things being counted and became abstract numerals.

Between 2700 BCE and 2000 BCE in Sumer, the round stylus was gradually replaced by a reed stylus that was used to press wedge-shaped cuneiform signs in clay. These cuneiform number signs resembled the round number signs they replaced and retained the additive sign-value notation of the round number signs. These systems gradually converged on a common sexagesimal number system; this was a place-value system consisting of only two impressed marks, the vertical wedge and the chevron, which could also represent fractions. This sexagesimal number system was fully developed at the beginning of the Old Babylonia period (about 1950 BC) and became standard in Babylonia.

Sexagesimal numerals were a mixed radix system that retained the alternating base 10 and base 6 in a sequence of cuneiform vertical wedges and chevrons. By 1950 BCE this was a positional notation system. Sexagesimal numerals came to be widely used in commerce, but were also used in astronomical and other calculations. This system was exported from Babylonia and used throughout Mesopotamia, and by every Mediterranean nation that used standard Babylonian units of measure and counting, including the Greeks, Romans and Egyptians. Babylonian-style sexagesimal numeration is still used in modern societies to measure time (minutes per hour) and angles (degrees).

In China, armies and provisions were counted using modular tallies of prime numbers. Unique numbers of troops and measures of rice appear as unique combinations of these tallies. A great convenience of modular arithmetic is that it is easy to multiply, though quite difficult to add. This makes use of modular arithmetic for provisions especially attractive. Conventional tallies are quite difficult to multiply and divide. In modern times modular arithmetic is sometimes used in Digital signal processing.

The oldest Greek system was the that of the Attic numerals, but in the 4th century BC they began to use a quasidecimal alphabetic system (see Greek numerals). Jews began using a similar system (Hebrew numerals), with the oldest examples known being coins from around 100 BC.

The Roman empire used tallies written on wax, papyrus and stone, and roughly followed the Greek custom of assigning letters to various numbers. The Roman numerals system remained in common use in Europe until positional notation came into common use in the 16th century.

The Maya of Central America used a mixed base 18 and base 20 system, possibly inherited from the Olmec, including advanced features such as positional notation and a zero. They used this system to make advanced astronomical calculations, including highly accurate calculations of the length of the solar year and the orbit of Venus.

The Incan Empire ran a large command economy using quipu, tallies made by knotting colored fibers. Knowledge of the encodings of the knots and colors was suppressed by the Spanish conquistadors in the 16th century, and has not survived although simple quipu-like recording devices are still used in the Andean region.

Some authorities believe that positional arithmetic began with the wide use of counting rods in China. The earliest written positional records seem to be rod calculus results in China around 400. In particular, zero was correctly described by Chinese mathematicians around 932.

The modern positional Arabic numeral system was developed by mathematicians in India, and passed on to Muslim mathematicians, along with astronomical tables brought to Baghdad by an Indian ambassador around 773.

From India, the thriving trade between Islamic sultans and Africa carried the concept to Cairo. Arabic mathematicians extended the system to include decimal fractions, and Muḥammad ibn Mūsā al-Ḳwārizmī wrote an important work about it in the 9th century. The modern Arabic numerals were introduced to Europe with the translation of this work in the 12th century in Spain and Leonardo of Pisa's *Liber Abaci* of 1201. In Europe, the complete Indian system with the zero was derived from the Arabs in the 12th century.

The binary system (base 2), was propagated in the 17th century by Gottfried Leibniz. Leibniz had developed the concept early in his career, and had revisited it when he reviewed a copy of the I ching from China. Binary numbers came into common use in the 20th century because of computer applications.

Numerals in most popular systems

West Arabic	0	1	2	3	4	5	6	7	8	9
East Arabic	٠	١	٢	٣	٤	٥	٦	٧	٨	٩
Persian	۰	۱	۲	۳	۴	۵	۶	۷	۸	۹
Asomiya (Assamese)	০	১	২	৩	৪	৫	৬	৭	৮	৯
Bengali	০	১	২	৩	৪	৫	৬	৭	৮	৯
Chinese (everyday)	〇	一	二	三	四	五	六	七	八	九
Chinese (formal)	零	壹	貳/貳	參/叁	肆	伍	陆/陸	柒	捌	玖
Chinese (Suzhou)	〇	丨			×	⊗	⊖	⊕	≡	文
Devanagari	०	१	२	३	४	५	६	७	८	९
Ge'ez (Ethiopic)		፩	፪	፫	፬	፭	፮	፯	፰	፱
Gujarati	૦	૧	૨	૩	૪	૫	૬	૭	૮	૯
Gurmukhi	੦	੧	੨	੩	੪	੫	੬	੭	੮	੯
Hieroglyphic Egyptian		𐎁	𐎂	𐎃	𐎄	𐎅	𐎆	𐎇	𐎈	𐎉
Kannada	೦	೧	೨	೩	೪	೫	೬	೭	೮	೯
Khmer	០	១	២	៣	៤	៥	៦	៧	៨	៩
Lao	໐	໑	໒	໓	໔	໕	໖	໗	໘	໙
Limbu	᱆	᱇	᱈	᱉	᱊	᱋	᱌	ᱍ	ᱎ	ᱏ
Malayalam	൦	൧	൨	൩	൪	൫	൬	൭	൮	൯
Mongolian	᠐	᠑	᠒	᠓	᠔	᠕	᠖	᠗	᠘	᠙
Burmese	၀	၁	၂	၃	၄	၅	၆	၇	၈	၉
Oriya	୦	୧	୨	୩	୪	୫	୬	୭	୮	୯
Roman		I	II	III	IV	V	VI	VII	VIII	IX
Telugu	౦	౧	౨	౩	౪	౫	౬	౭	౮	౯
Tamil	௦	௧	௨	௩	௪	௫	௬	௭	௮	௯
Thai	๐	๑	๒	๓	๔	๕	๖	๗	๘	๙
Tibetan	༠	༡	༢	༣	༤	༥	༦	༧	༨	༩
Urdu	۰	۱	۲	۳	۴	۵	۶	۷	۸	۹

Additional numerals

	10	20	30	40	100	1000	10000	10⁸	10¹²		
Chinese (simple)	十	廿	卅	卌	百	千	万	亿	兆		
Chinese (complex)	拾				佰	仟	萬	億	兆		
	10	20	30	40	50	60	70	80	90	100	10000
Ge'ez (Ethiopic)	፩	፪	፫	፬	፭	፮	፯	፰	፱	፷	፻፵
	10	50	100	500	1000						
Roman	X	L	C	D	M						

See also

Numerals in various languages

- Proto-Indo-European numerals
 - English-language numerals
 - Indian numbering system
- Proto-Semitic numerals
 - Hebrew numerals
- Japanese numerals
- Korean numerals
- Finnish numerals

Numeral notation in various scripts

- Arabic numerals
- Armenian numerals
- Babylonian numerals
- Burmese numerals
- Chinese numerals
- Greek numerals
- Hebrew numerals
- Indian numerals
- Japanese numerals
- Korean numerals
- Mayan numerals
- Quipu
- Rod numerals
- Roman numerals
- Suzhou numerals

Related topics

- Large numbers
- Abacus
- History of large numbers
- List of numeral system topics
- Long and short scales
- Myriad
- Names of large numbers
- Natural number
- Numeral system

Notes

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koj:Льдним mhr:Чотмут

Mason, TXiKi, Ta bu shi da yu, Tarzanjv, Template namespace initialisation script, Tester999, Tevvey, Texture, The Anome, The High Fin Sperm Whale, The Number 1, The Rambling Man, The Thadman, The Thing That Should Not Be, The demiurge, TheFuzzyFive, TheNepnoc, Theobofii, Thechosonone021, TheodoreNg, Theoneintraining, Thoric, Tide rolls, Tim Starling, Tobias Bergemann, Toby Bartels, TomFenslau, Trevor MacInnis, Triumph Gloria123, Tropylium, Turk oĝlan, Twofinny, Tylop, Ubculc, Uncle G, Unixer, Vallaha, Vargenau, Vegaswikian, Velho, Verdlanco, Versus22, Vipinhari, Vsmith, WLU, WOSlinker, WadeSimMiser, Wazzers, Wakandas black panther, Warofdreams, Wavelength, Wayne Slam, Weron, WhisperToMe, Whittsnake, WikiDan61, Wildbird30, WingZero, Wise dude321, Wolfram, Woohookitty, Wzzrd, X1, XIDoL, XJAmRastafire, Xiahou, Xiao191, Xsg, Xymmax, Yacht, Yachtsman1, Yekrats, Yidisheryid, Yoninah, Zakuragi, Zeldamaster3, Zeyes, Zintsmaster, Ziva David, Zoney, ZooFari, Zsini, Zundark, Zzuuzz, 691 anonymous edits

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