## 44 Forty-Four XLIV



Corresponding ordinal: forty-fourth.
The number 44 is the twenty-third even number and the twenty-ninth composite number.
As a product of primes: $44=2^{2} \cdot 11$.
The number 44 has six divisors: $1,2,4,11,22,44$.
The number 44 is the thirty-fourth deficient number: $s(44)=1+2+4+11+22=$ $40<44$.

As a sum of four or fewer squares: $44=2^{2}+2^{2}+6^{2}=1^{2}+3^{2}+3^{2}+5^{2}$.
As a sum of nine or fewer cubes: $44=4 \cdot 1^{3}+5 \cdot 2^{3}=1^{3}+2 \cdot 2^{3}+3^{3}$.
As a difference of two squares: $44=12^{2}-10^{2}$.
The number 44 appears in four Pythagorean triples: [33, 44, 55], [44, 117, 125], [44, 240, $244],[44,483,485]$. The second and the fourth are primitive.

As a sum of two odd primes: $3+41,7+37,13+31$.
The 44 digit number 42000000000000000000000000000000000000000043 is prime.
The number $44=1^{2}+2^{2}+3^{2}+4^{2}+3^{2}+2^{2}+1^{2}$ is an octahedral number.


An Euler brick has integer-length sides and integer-length diagonals on its six faces. The lengths of the sides of the smallest Euler brick are 44, 117, and 240. The problem is one of finding three Pythagorean triples whose nonhypotenuse sides comprise three
numbers. In this case, the Pythagorean triples are [44, 117, 125], [44, 240, 244], and [117, 240, 267]. No Euler brick is known for which the length of the long diagonal is also an integer.

In 1951, Ferrier, using a mechanical desk calculator, showed that the 44-digit number

$$
20988936657440586486151264256610222593863921=\frac{2^{148}+1}{17}
$$

is prime. This is the largest number shown to be prime before the electronic computer age. The previous largest known prime, the 39-digit number

$$
170141183460469231731687303715884105727=2^{127}-1
$$

which is a Mersenne prime, was shown to be prime using hand calculations by Lucas in 1876.

The forty-fourth President of the United States is Barack Hussein Obama II.
The forty-fourth state to enter the Union was Wyoming.
The forty-fourth largest state in the United States is New Hampshire.
No. 44, The Mysterious Stranger by Mark Twain features a character named 44.
The Hebrew word for "blood" has numerical value 44.

