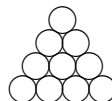


# 10 Ten X



Corresponding ordinal: tenth.

The number  $10 = 1 + 2 + 3 + 4$  is a triangular number (see above). If you bowl, you know this.

The number 10 is a *tetrahedral number* because it is the sum  $1 + 3 + 6$  of the first three triangular numbers. Here you can see 10 balls stacked into a tetrahedron:



The number 10 is the sixth even number and the fifth composite number.

As a product of primes:  $10 = 2 \cdot 5$ .

The number 10 has four divisors: 1, 2, 5, 10.

The number 10 is the ninth deficient number since  $s(10) = 1 + 2 + 5 = 8 < 10$ .

As the sum of four or fewer squares:  $10 = 1^2 + 3^2 = 1^2 + 1^2 + 2^2 + 2^2$ .

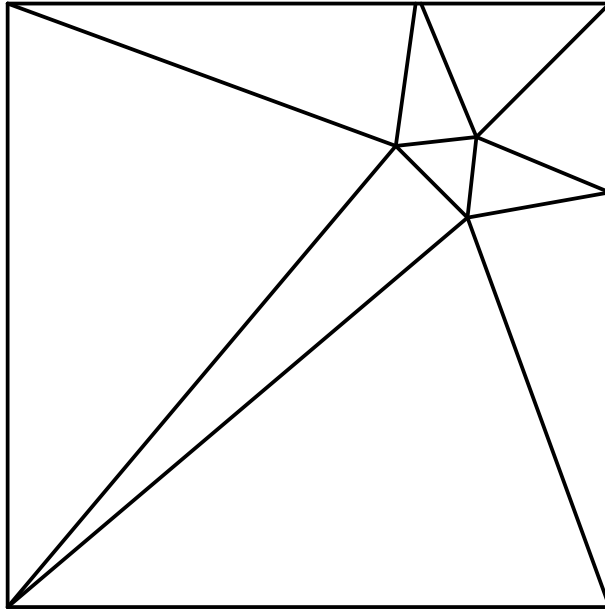
As the sum of nine or fewer cubes:  $10 = 1^3 + 1^3 + 2^3$ .

The number 10 appears in two Pythagorean triples:  $[6, 8, 10]$  and  $[10, 24, 26]$ . Neither of these is primitive because 10 is twice an odd number.

The number 10 is the smallest number that can be written as the sum of two primes in two different ways:  $10 = 3 + 7 = 5 + 5$ .

The number 10 is the sum of the first three primes. Its square is the sum of the first nine primes.

The number 10 is the smallest number of acute isosceles triangles into which you can dissect a square. (You can easily dissect a square into two isosceles right triangles.) Here is such a construction due to Gosper.



The number 10 is the base of our numeration system, probably because we have 10 fingers. We name our numbers with strings of digits, representing multiples of powers of 10. The string 84031 stands for the number  $8 \times 10^4 + 4 \times 10^3 + 0 \times 10^2 + 3 \times 10 + 1$ .

The tenth President of the United States was John Tyler.

The tenth state to enter the Union was Virginia.

The *Bill of Rights* consists of the first ten amendments of the United States Constitution. The tenth amendment says that “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”

The tenth largest state in the United States is Oregon.

Moses received the 10 commandments on Mount Sinai.

A ten-cent piece is called a “dime.”