

# NumberOpedia

## 3 Three III

3 is the first odd number and the second prime number.

It is the only prime preceding a square number ( $4 = 2^2$ ).

Octopuses have 3 hearts.

A number is divisible by 3 if the sum of its digits is divisible by 3.

The reverse of any number that is divisible by three (or indeed, any permutation of its digits) is also divisible by three.

Choose a prime number greater than 3. Multiply it by itself and add 14. If the result is divided by 12, then the remainder will always be 3.

It is the difference of two squares:  $3 = 2^2 - 1^2$ .

The smallest Fermat prime which is also a triangular number.

3 is the smallest odd Fibonacci prime.

3 is the first Mersenne prime (i.e., a prime of the form  $2^{(n-1)}$ ).

The German card game Skat requires at least 3 players.

The law of proportions, called the Rule of Three by the Indian mathematician Brahmagupta, became a standard of rational thought.

3 is the only integer between the mathematical constants  $e$  and  $\pi$ .

3 as the sum of two factorials:  $3 = 1! + 2!$



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3 is the only natural number equal to the sum of all the numbers below it, and the only number whose sum with those below equals the product of them and itself (or,  $1 + 2 + 3 = 1 \times 2 \times 3$ ).

We can't divide an arbitrary angle into 3 equal parts using just a straightedge and compass.

Srinivasa Ramanujan noticed that  $3 = \sqrt{1 + \sqrt{1 + 2\sqrt{1 + 3\sqrt{1 + 4\sqrt{1 + \dots}}}}}$ .

3 is the only known number  $n$  such that  $n! - 1$  and  $n! + 1$  are prime,

3 is the number of non-collinear points needed to determine a plane, a circle, and a parabola.

A closed polygon with 3 sides is called a triangle. Euclid called it a figure with three angles. Why do we all say that it is a figure with three sides?

3 times of a number is called it's thrice.

Three of the five regular polyhedra have triangular faces.

If three positive natural numbers  $a$ ,  $b$  and  $c$  satisfy the relation  $a^2 + b^2 = c^2$ , they are said to form a Pythagorean triple.

The natural world is 3 dimensional. In 3 dimensions, at most 3 lines can be drawn that are mutually perpendicular.

The smallest magic square is of order 3.

