

Numbers

We use **numbers** in our day to day life. They are often called numerals. Without numbers, we cannot do counting of things, date, time, money, etc. Sometimes these numbers are used for measurement and sometimes they are used for labelling. The properties of numbers make them capable of performing arithmetic operations on them. These numbers are expressed in numeric forms and also in words. For example, 2 is written as two in words, 25 is written as twenty-five in words, etc. Students can practice writing the numbers from 1 to 100 in words to learn more.

There are different types of numbers in Maths, which we learn. They are natural and whole numbers, odd and even numbers, rational and irrational numbers, etc. We will discuss all the types here in this article. Apart from these, the numbers are used in various applications such as forming number series, maths tables, etc.

Numbers Definition

A **number** is an arithmetic value used for representing the quantity and used in making calculations. A written symbol like "3" which represents a number is known as numerals. A number system is a writing system for denoting numbers using digits or symbols in a logical manner. The numeral system:

- Represents a useful set of numbers
- Reflects the arithmetic and algebraic structure of a number
- Provides standard representation

We use the digits from 0 to 9 to form all other numbers.

We use numbers to count different things or objects such as 1, 2, 3, 4, etc. Humans have been using numbers to count things from the past thousands of years. For example, there are 7 cows in the field. The counting numbers start from 1 and it goes till infinity.

Types of Numbers

The numbers can be classified into sets known as the number system. The different **types of numbers** in maths are:

- **Natural Numbers:** Natural numbers are known as counting numbers that contain the positive integers from 1 to infinity. The set of natural numbers is denoted as "N" and it includes $N = \{1, 2, 3, 4, 5, \dots\}$
- **Whole Numbers:** Whole numbers are known as non-negative integers and it does not include any fractional or decimal part. It is denoted as "W" and the set of whole numbers includes $W = \{0, 1, 2, 3, 4, 5, \dots\}$

- **Integers:** Integers are the set of all whole numbers but it includes a negative set of natural numbers also. "Z" represents integers and the set of integers are $Z = \{-3, -2, -1, 0, 1, 2, 3\}$
- **Real Numbers:** All the positive and negative integers, fractional and decimal numbers without imaginary numbers are called real numbers. It is represented by the symbol "R".
- **Rational Numbers:** Any number that can be written as a ratio of one number over another number is written as rational numbers. This means that any number that can be written in the form of p/q . The symbol "Q" represents the rational number.
- **Irrational Numbers:** The number that cannot be expressed as the ratio of one over another is known as irrational numbers and it is represented by the symbol "P".
- **Complex Numbers:** The number that can be written in the form of $a+bi$ where "a and b" are the real number and "i" is an imaginary number is known as complex numbers "C".
- **Imaginary Numbers:** The imaginary numbers are the complex numbers that can be written in the form of the product of a real number and the imaginary unit "i"
- **Even Numbers:** The numbers which are exactly divisible by 2, are called even numbers. These can be positive or negative integers such as -42, 36, -12, 2, 4, 8 and so on.
- Get more information about **even number** here.
- **Odd Numbers:** The numbers which are not exactly divisible by 2, are called odd numbers. These can be both positive and negative integers such as -3, -15, 7, 9, 17, 25 and so on.
- **Prime Numbers:** Prime numbers are the numbers that have two factors only. (i.e.,) 1 and the number itself. In other words, the number which is divided by 1 and the number itself is called prime numbers. For example, 2, 3, 5, 7, 11, etc.
- **Composite Numbers:** A composite number is a number that has more than two factors. For example, 4 is a composite number, as the number 4 is divisible by 1, 2, and 4. Other examples of composite numbers are 6, 8, 9, 10, and so on.