

6th Standard Maths

Integers

There arise times when we have to use the numbers with a negative sign. This happens when we want to go below zero on the number line. These numbers are less than zero and are called negative numbers. If a movement of only 1 is made to the right, we get the successor of the number. However, if a movement of only 1 is made to the left, we get the predecessor of the number.

Tag me with a sign

Some of the situations where we use the negative numbers are as follows:

- Height below the surface of the sea level
- Spending
- Temperature below 0°C
- Debit amount
- Outstanding dues.

Integers

The collection of numbers $-4, -3, -2, -1, 0, 1, 2, 3, 4, \dots$ is called integers. $-1, -2, -3, -4, \dots$ called negative numbers are negative integers. $1, 2, 3, 4, \dots$ called positive numbers are positive integers. 0 is simply an integer, neither positive nor negative.

Representation of integers on a number line

Draw a line. Mark a point as zero on it. Mark some points at the same equal

distances to the right and left of 0. Points to the right of zero are positive integers and are marked as +1, +2, +3, etc. or simply 1, 2, 3 etc. Points to the left of zero are negative integers and are marked as -1, -2, -3, etc.

Ordering of integers

The values of the numbers represented on the right side of '0' on a number line increase as their distance from the point '0' increases. On the other hand, the values of the numbers represented on the left side of '0' on a number line decrease as their distance from the point '0' increases.

Addition of Integers

To add two integers, the following rules should be followed:

- To add two positive integers, add them and put the positive sign.
- To add two negative integers, add them and put the negative sign.
- To add two integers, one positive and the other negative, subtract them and put the sign of the bigger integer. [The bigger integer is decided by ignoring the signs of the integers.]

Addition of integers on a number line

When we add two positive integers, their sum is a positive integer. When we add two negative integers, their sum is a negative integer.

When we add a positive integer to a number, it increases the value of the number, but when we add a negative integer to a number, the value of the number reduces.

Numbers such as 2 and -2, 3 and -3 when added to each other give the sum zero. They are called additive inverse of each other.

Subtraction of integers on a number line

To subtract an integer from another integer, it is enough to add the additive inverse of the integer that is being subtracted to the other integer.

