

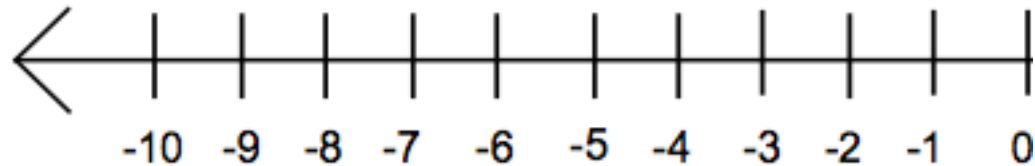
Integers

Chapter - VI

Negative Numbers

- Sometimes we need to represent numbers that are less than 0.
- We use a negative sign '-' in front of such numbers to denote that they are less than zero.
- These numbers are called **negative numbers**.
- These numbers also have a **successor** and a **predecessor**.

- Number line depicting negative numbers :



Integers

- The positive numbers 1, 2, 3, ..., the negative numbers -1, -2, -3,... and '0' together form what are called **integers**.
- The **natural numbers** and **whole numbers** are part of integers.

A Venn diagram consisting of three concentric ellipses. The outermost ellipse is labeled 'Integers Z : {...,-2, -1, 0, 1, 2...}'. Inside it is a medium ellipse labeled 'Whole Numbers W : {0, 1, 2, 3, 4..}'. Inside the medium ellipse is the innermost ellipse labeled 'Natural Numbers N : {1, 2, 3, 4,}'. All ellipses are filled with a solid red color and have a thin white border.

Integers $Z : \{..,-2, -1, 0, 1, 2...\}$

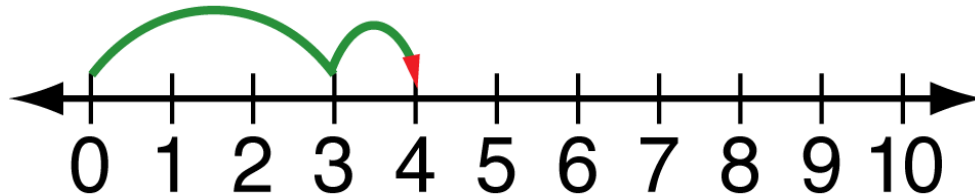
Whole Numbers $W : \{0, 1, 2, 3, 4..\}$

Natural Numbers
 $N : \{1, 2, 3, 4,\}$

Addition of integers

- Like natural numbers, we can also add integers.
- We already know how to add two positive integers.
- Below we show how to add integers with the help of a number line.

$$3 + 1 = 4$$

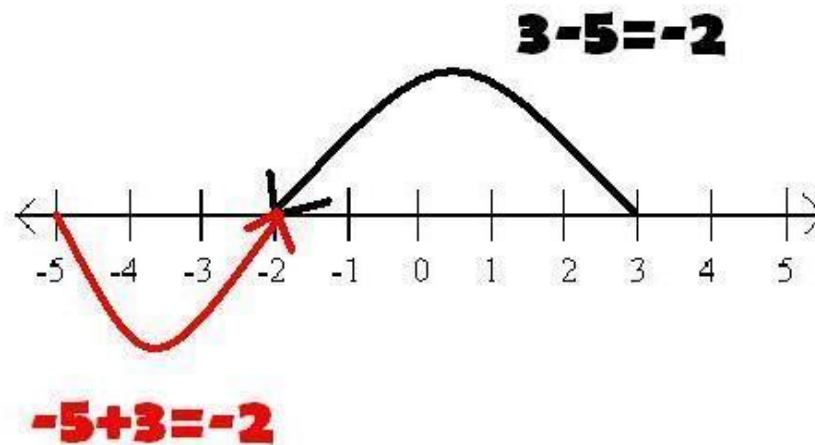


Additive Inverse

- . As we read in previous chapters, the number '**a**' is called the **additive inverse** of '**a**'.
- . Any number which when added to a number gives the result **0** is called an **additive inverse**.

Subtraction

- As we saw in the previous chapters, we can have the subtraction operation on integers, as we had on natural numbers !



Some points to notice

- . 0 is always less than any positive integer.
- . 0 is always greater than any negative integer.
- . 0 is neither positive nor negative.

This has introduced you to the key concepts in chapter-VI ,
you are now encouraged to read the text book in detail and
solve the problems there !

Thank you !