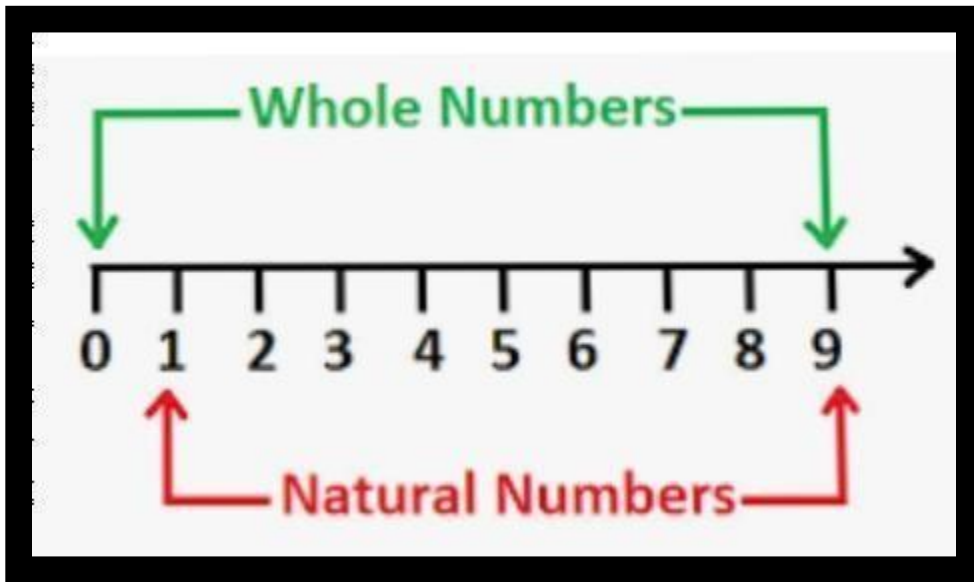


Class : 6

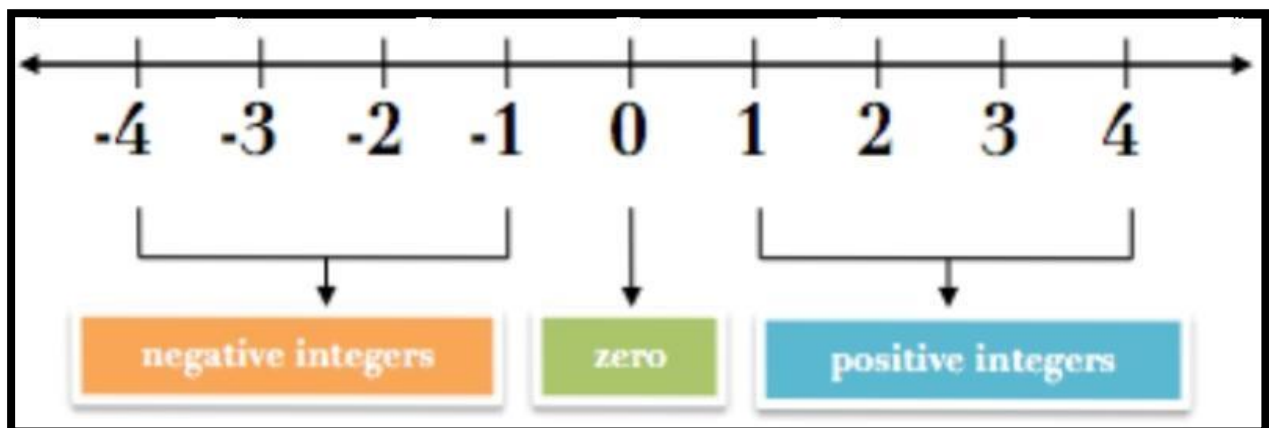
Subject : Mathematics

Topic. : Integers



- The collection of whole numbers and negative numbers are INTEGERS.

$I$  or  $Z = \{\dots, -4, -3, -2, -1, 0, 1, 2, 3, 4, \dots\}$



- **Counting numbers are natural numbers.**
- **Properties of natural numbers**

## **1. Addition properties**

- **Two natural numbers add up to a natural number ,closure property.**
- **A change in the order of addition of two natural numbers does not change the sum, commutative property.**
- **A change in the grouping of three natural numbers while adding does not change the sum, associative property.**

## **2. Multiplication property**

- **two natural numbers when multiplied to give a natural number, closure property.**
- **exchange in the order of multiplication of two natural numbers does not change the product, commutative property.**
- **A change in the grouping of three natural numbers, associative property.**

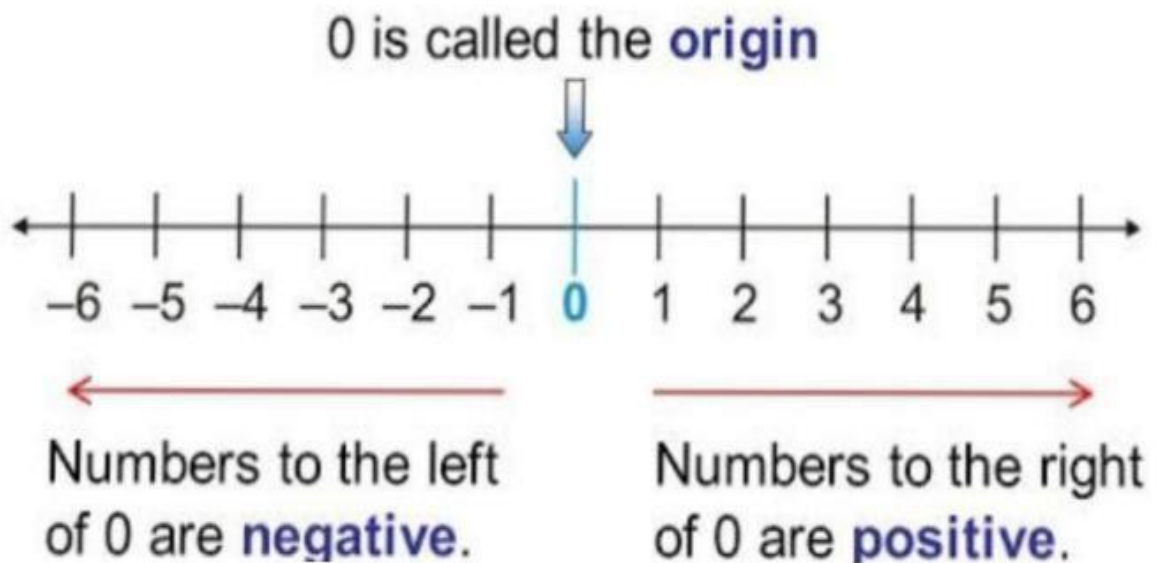
The number zero ( 0) together with the counting numbers (1,2,3,4,.....)are called **WHOLE NUMBERS.**

- The the closure property of addition.
- The commutative property of addition.
- The associative property of addition.

- The additive property of zero OR additive identity.
- The closure property of multiplication.
- The commutative property of multiplication .
- 1 is the multiplicative identity.
- The multiplicative property of zero
- The associative property of multiplication.
- The quotient obtained after dividing a whole number by another whole number is not necessarily a whole number

## Integers :- comparison and of integers

If 0 is the origin or the reference point then



- **Zero is less than every positive integer since 0 is to the left of every positive integer**
- **Zero is greater than every negative integer since 0 is to the right of every negative integer**

## Example 1

Which is the greater integer between 3 and 7?

7

### Explanation:

3 and 7 both are positive integers.  
7 is a larger number than 3.

## Example 2

Is 5 greater than or less than 6?


less than

### Explanation:

5 and 6 are positive integers.  
5 is a smaller number than 6.  
Therefore, 5 is less than 6.

- Every positive integer is greater than every negative integer since every positive integer is to the right of every negative integer

---

Which is the greater integer between  $-3$  and  $1$ ? 

---

1

### Explanation:

---

$-3$  is a negative integer and  $1$  is a positive integer.

A positive integer is greater than a negative integer.

Therefore,  $1$  is the greater integer.

- The greater is the number the lesser is its opposite

---

Is  $-10$  greater than or less than  $-6$ ?

---

less than

## Explanation:

---

$-10$  and  $-6$  are negative integers.

$6$  is a smaller number than  $10$ .

$-6$  is greater than  $-10$ .

Therefore,  $-10$  is less than  $-6$ .

$-10$  and  $-6$  are negative integers.

The number closest to zero is the bigger number.

$-6$  is closer to zero than  $-10$

Therefore,  $-10$  is less than  $-6$ .

Class 6

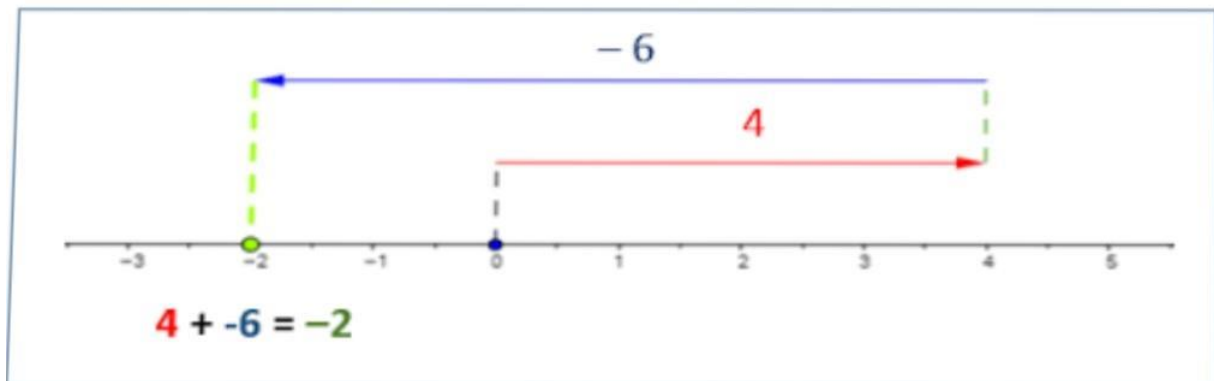
Subject Mathematics

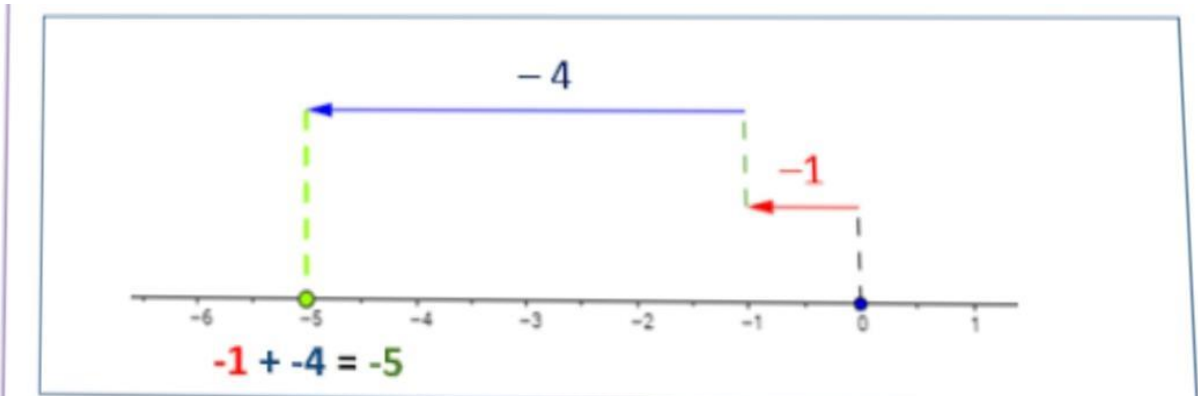


## Topic. Integer Addition and Subtraction

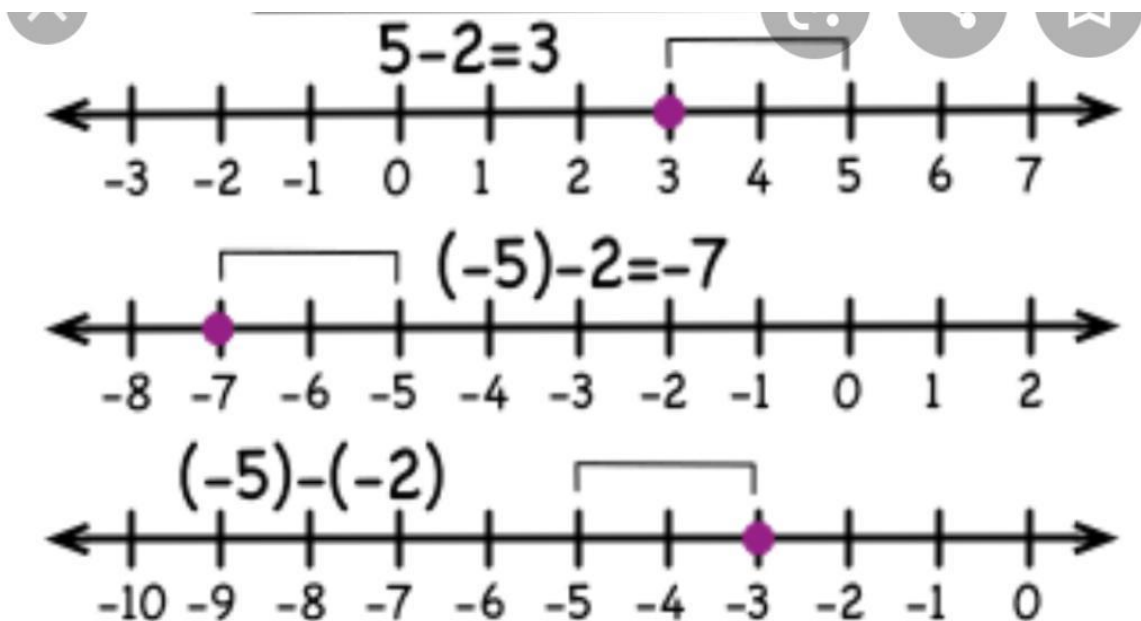
### Addition and subtraction of integers

- Adding integers on a number line
- To add the positive integer move to the right on the number line from the first integer.
- To add the negative integer move to the left on the number line from the first integer





- Subtraction of integers on a number line.
- To subtract a positive integer Move to the left on the number line from the first integer.
- To subtract A negative integer move to the right on the number line from the first integer



# WORKSHEET

1. Write the smallest whole number.
2. Write the smallest natural number.
3. What is the successor of zero in whole numbers?
4. What is the predecessor of 0 in whole numbers?
5. Write the successor of 1001
6. Write two predecessors of 10000
7. Write 3 consecutive even numbers beginning with 34 and find their sum.
8. Find the difference between the largest five digit number and the smallest 6 digit number.

9. Write the successor of 9999
10. What is the difference between the place values of 5s in 576510.?

11. Draw a number line and answer the following

- a) Which number will be reach if we move 5 numbers to the left of 1
- b) Which number will be reach if we move 6 numbers to the right of -3
- c) If we are at minus 5 on the number line in which direction should we move to reach one
- d) Mark all the integers between the given pairs -4 and 4.
- e) Find the sum on number line 137 and – 354.
- f) Find the value of.  $30 + (-23) + (-63) + 55$

g) Subtract : 23 – ( - 12)