VIDYA BHAWAN, BALIKA VIDYAPITH
Shakti Utthan Ashram, Lakhisarai-811311(Bihar)
(Affiliated to CBSE up to +2 Level)

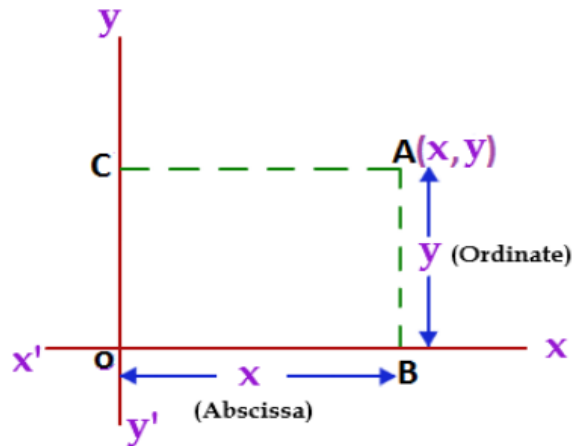CLASS:8TH   DATE: 13-01-2021   SUB.:MATHEMATICS

- **Introduction to Graphs**

Coordinates of a Point

To write the coordinates of a point we need an x **- coordinate** and a y-coordinate of a point.

- x-coordinate tells how many units to move right or left. It is also called the **Abscissa**.
- y-coordinate tells how many units to move up or down. It is also called the **Ordinate**.
- While writing the coordinates of a point in the coordinate plane, the x - coordinate comes first, and then the y - coordinate. We place the coordinates in brackets.
- Coordinates of the point of intersection of x-axis and y-axis is (0, 0).this is called **Origin**.

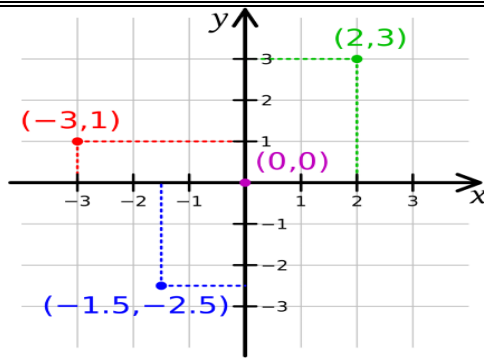In the above figure, OB = CA = x coordinate (Abscissa), and CO = AB = y coordinate (Ordinate).

We write the coordinate as (x, y).

Example

Plot the given points on the graph sheet.

- (2, 3)
- (-3, 1)
- (-1.5, – 2.5)

Solution:

Remark: If x ≠ y, then (x, y) ≠ (y, x), and (x, y) = (y, x), if x = y.

Some Applications of Graph

In our day to day life, there are so many situations where we can use the graph for comparisons and analysis.
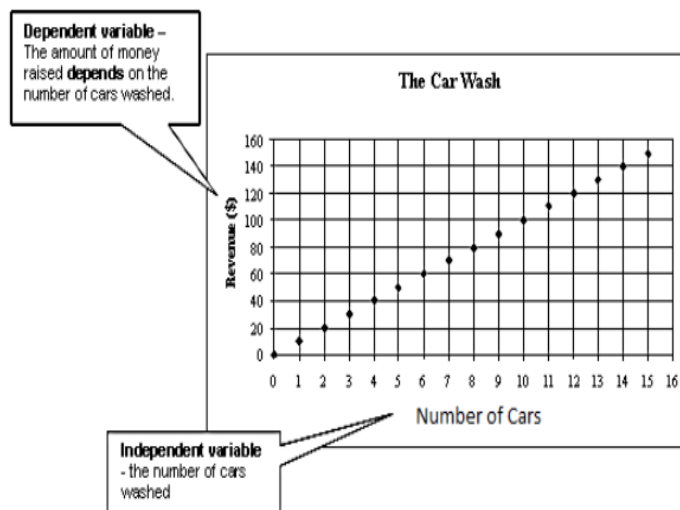
1. Independent Variable

Anything which is completely independent and its movement do not depend on any other factor then it is called **Independent Variable**.

2. Dependent Variable

Anything which increases or decreases with the movement of any other factor or it is dependent on any other factor then it is called **Dependent Variable**.

The Relationship between the Independent and Dependent Variable

The above graph shows that the revenue will increase with the increase in the number of cars washed. So the revenue is the dependent variable and the number of cars washed is an independent variable.