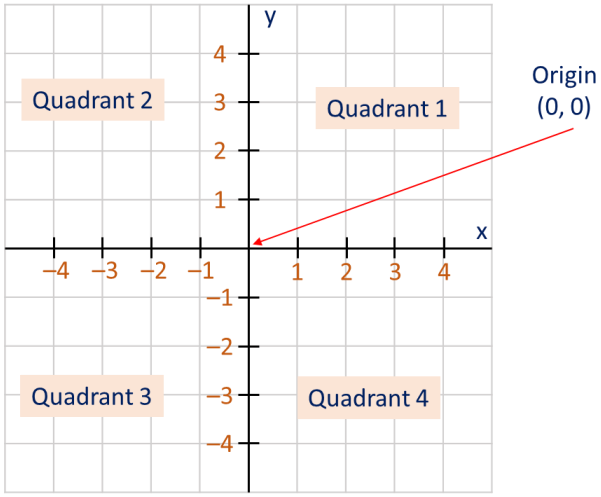
Coordinates of a Point

Understanding of Coordinates of a Point

- Every point on the graph is represented by an ordered pair (x, y) called the coordinates of the point.
- The x–coordinate shows the position along the x–axis and the y–coordinate shows the position along the y–axis.
- The coordinates help in locating the exact position of a point on the Cartesian plane.



Important Points

- Coordinates are always written in the form (x, y).
- x–coordinate is called the abscissa and y–coordinate is called the ordinate.
- A point on the x–axis has its y–coordinate 0.
- A point on the y–axis has its x–coordinate 0.
- In different quadrants, the signs of x and y change.

Examples with Solutions

Example: Simple Location

➢ **Find the coordinates of a point 3 units right of origin and 2 units above x–axis.**

Solution: (3, 2)

Example: On x–axis

- **Find the coordinates of a point located 5 units left from the origin on the x–axis.**

Solution: (–5, 0)

Example: On y–axis

- **Find the coordinates of a point located 6 units below the origin on the y–axis.**

Solution: (0, –6)

Example: In Third Quadrant

- **Find the coordinates of a point 4 units left of y–axis and 3 units below x–axis.**

Solution: (–4, –3)

Example: Origin Point

- **What are the coordinates of the origin?**

Solution: (0, 0)

Summary Points

- Coordinates are ordered as (x, y).
- x–coordinate represents horizontal distance from y–axis.
- y–coordinate represents vertical distance from x–axis.
- Positive and negative signs tell the direction.
- Coordinates are essential to plot points and create graphs.