Coordinate Axes

Understanding of Coordinate Axes

- The coordinate axes are two perpendicular number lines used to locate points on a plane.
- The horizontal line is called the x-axis and the vertical line is called the y-axis.
- The point where the x-axis and y-axis meet is called the origin, denoted by (0, 0).
- Every point on the plane is represented by an ordered pair (x, y) called coordinates.



Important Points

- The x-coordinate tells the distance from the y-axis (horizontal movement).
- The y-coordinate tells the distance from the x-axis (vertical movement).
- Coordinates are written in the form (x, y).
- The axes divide the plane into four quadrants.
- Movement to the right or upward is positive, movement to the left or downward is negative.

Examples with Solutions

Example: Identify Coordinates

What are the coordinates of the origin?

Solution: (0, 0)

Example: Find x and y Values

If a point is 4 units to the right of y-axis and 3 units above x-axis, find its coordinates.

Solution: (4, 3)

Example: Negative Coordinates

Find the coordinates of a point 5 units to the left of y-axis and 2 units below x-axis.

Solution: (-5, -2)

Example: Identify Axis Position

If a point is on the x-axis at 6 units right of the origin, what are its coordinates?

Solution: (6, 0)

Example: Point on y-axis

Find the coordinates of a point on the y-axis 7 units below the origin.

Solution: (0, −7)

Summary Points

- The x-axis and y-axis are perpendicular lines that meet at the origin.
- Coordinates are ordered as (x, y).
- Positive x is to the right, negative x is to the left.
- Positive y is upward, negative y is downward.
- The coordinate plane is divided into four quadrants by the axes.