

The Cartesian Plane

Chapter 3: Coordinate Geometry · Topic 1

Key Concept

Each quadrant has a distinct combination of positive/negative x and y values: Quadrant I (x positive, y positive), Quadrant II (x negative, y positive), Quadrant III (x negative, y negative), and Quadrant IV (x positive, y negative). This quadrant system allows any point's approximate location to be immediately understood just from the signs of its coordinates, before even considering the exact numerical values, making it a foundational tool for coordinate geometry and graphing.

Quick Revision Notes

- The Cartesian plane has a horizontal x-axis and vertical y-axis meeting at the origin (0,0).
- The plane is divided into four quadrants, numbered counter-clockwise from the top-right.
- Quadrant I: (+,+). Quadrant II: (-,+). Quadrant III: (-,-). Quadrant IV: (+,-).
- The quadrant system helps quickly identify a point's general location from its coordinate signs.

Practice Questions

- 1 In which quadrant does the point (-3,4) lie?
- 2 Identify the quadrant for the point (5,-2).
- 3 Explain how the sign of a point's coordinates determines its quadrant.