

□ 1. Introduction:

Coordinate Geometry (also called Cartesian Geometry) is the study of geometry using the coordinate plane. It connects algebra and geometry by plotting algebraic equations on graphs.

□ 2. Cartesian System:

- A Cartesian plane is formed by two number lines:
 - The X-axis (horizontal)
 - The Y-axis (vertical)
- The point where they intersect is called the Origin $(0, 0)$.

□ 3. Coordinates of a Point:

- A point is represented as an ordered pair (x, y) :
 - x : distance from the Y-axis (horizontal)
 - y : distance from the X-axis (vertical)
- The x -value is called the abscissa, and the y -value is the ordinate.

□ 4. The Four Quadrants:

Quadrant	x-value	y-value	Example
I	+	+	(3, 2)
II	-	+	(-4, 5)
III	-	-	(-2, -6)
IV	+	-	(7, -1)

□ 5. Important Terms:

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- Origin: The point (0, 0)

- Abscissa: The x-coordinate
- Ordinate: The y-coordinate

□ 6. Plotting Points on Graph:

□ Steps to Plot a Point (x, y) :

1. Start at the origin $(0, 0)$
2. Move x units horizontally: Right if $+$, Left if $-$
3. Move y units vertically: Up if $+$, Down if $-$

4.

Mark the point and label it

□ 7. Real-Life Uses of Coordinate Geometry:

- Maps and navigation (Google Maps)
- Game design and animation
- Tracking and GPS systems
- Engineering and architecture

□ 8. Exam Tips:

- Memorize the signs of coordinates in all four quadrants
- Practice plotting points on graph paper
- Understand the terminology: axis, origin, abscissa, ordinate
- Practice NCERT exercises with proper diagrams

□ 9. Common Questions in Exams:

- Plot and label given points

- Identify the quadrant of points like $(-2, 3)$, $(4, -1)$, etc.
- Define terms like origin, abscissa, ordinate
- Fill in blanks or true/false based on coordinate knowledge