CBSE Class 9 Maths Notes Chapter 3: CBSE Class 9 Maths Notes Chapter 3 talk about Coordinate Geometry. It's like using numbers to describe shapes and positions on a graph. These notes help you understand how to use numbers to find points on a graph, measure distances between them, and even figure out where the middle point is.

By studying these notes, you'll learn how to work with graphs better and solve problems involving shapes and lines. The notes have lots of examples to help you understand, and they also give you practice questions to test what you've learned. So, if you want to get better at math and understand shapes and graphs more easily, these notes are a great help!

CBSE Class 9 Maths Notes Chapter 3 PDF

You can find CBSE Class 9 Maths Notes Chapter 3 in the provided PDF link. This chapter is all about Coordinate Geometry, which helps us understand shapes and positions using numbers on a graph.

They're helpful for improving math skills and solving problems related to shapes and lines.

CBSE Class 9 Maths Notes Chapter 3 PDF

CBSE Class 9 Maths Notes Chapter 3 Coordinate Geometry

Coordinate Geometry

Coordinate geometry is a branch of mathematics that combines algebra and geometry. It involves using numerical coordinates to describe the positions of points, lines, curves, and shapes on a graph. In coordinate geometry, the Cartesian coordinate system is commonly used, which consists of a horizontal x-axis and a vertical y-axis intersecting at a point called the origin. Points on the coordinate plane are represented by ordered pairs (x, y), where x is the distance along the x-axis and y is the distance along the y-axis.

This system allows us to precisely locate and describe geometric figures, calculate distances and slopes, and solve various problems related to shapes and spatial relationships. Coordinate geometry plays a crucial role in fields such as engineering, physics, computer graphics, and many others, making it an essential topic to learn in mathematics.
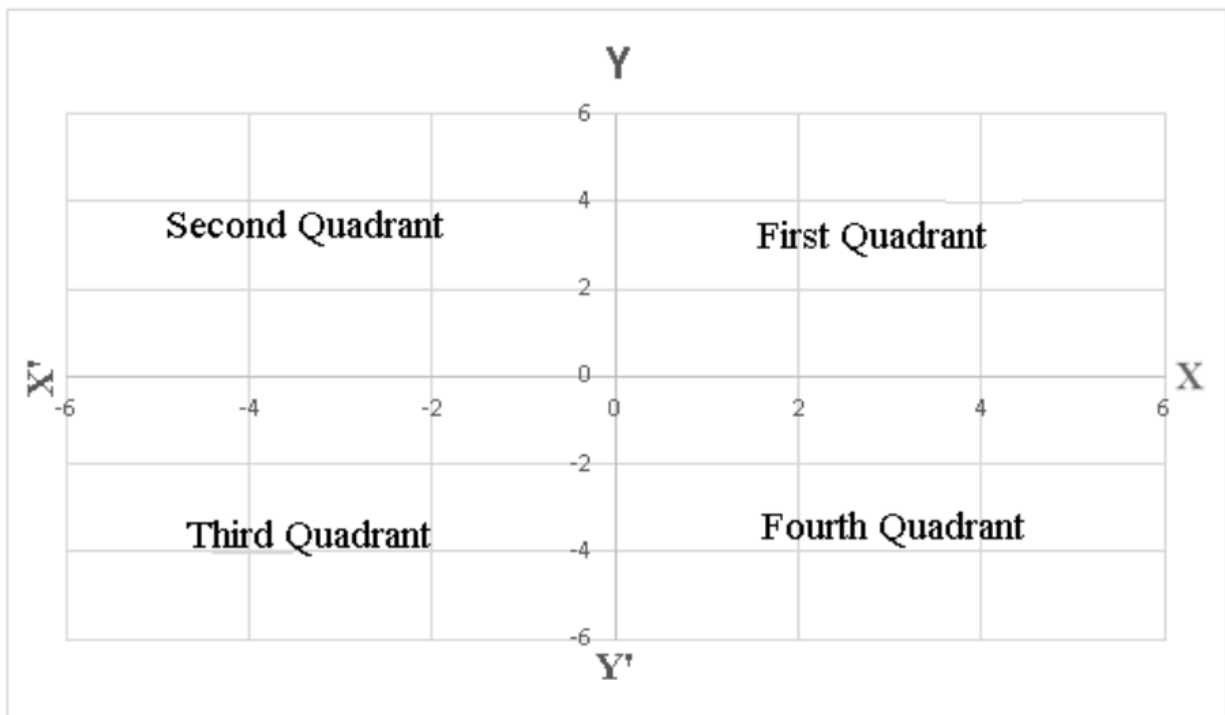
Coordinate Axes

Coordinate axes are formed when two perpendicular lines, XOX' and YOY', intersect at a point called the origin, denoted as O. The origin serves as the starting point for measuring distances

on the plane. The plane is divided into four quadrants, labeled as I, II, III, and IV, by the axes. This plane is commonly known as the Cartesian plane, coordinate plane, or XY-plane. The Cartesian plane encompasses the axes and provides a framework for locating points in two-dimensional space.

The x-axis and y-axis are represented by the lines XOX' and YOY', respectively, typically drawn horizontally and vertically. The origin, denoted as O, is where these two axes intersect. The values of x measured along the x-axis from O are called abscissae, with positive values extending along OX and negative values extending along OX'.

Similarly, the values of y measured along the y-axis from O are termed ordinates, with positive values extending along OY and negative values extending along OY'. The coordinates of a point are expressed as (abscissa, ordinate), representing its position on the plane.

Example:

- A point's coordinates on the Cartesian plane are expressed as an ordered pair (x, y), where x represents the abscissa and y represents the ordinate.
- The abscissa (x-coordinate) indicates the horizontal position of the point, measured along the x-axis from the origin.
- The ordinate (y-coordinate) represents the vertical position of the point, measured along the y-axis from the origin.

- For example, if a point has an abscissa of 6 and an ordinate of 2, its coordinates are written as (6, 2).
- Lines perpendicular to the x-axis (such as AC) are drawn vertically, while lines perpendicular to the y-axis (like AB) are drawn horizontally.
- The order of the coordinates in the ordered pair matters; swapping the x and y coordinates changes the position of the point on the plane.
- Therefore, (x, y) is not equivalent to (y, x), highlighting the significance of the order in the ordered pair.
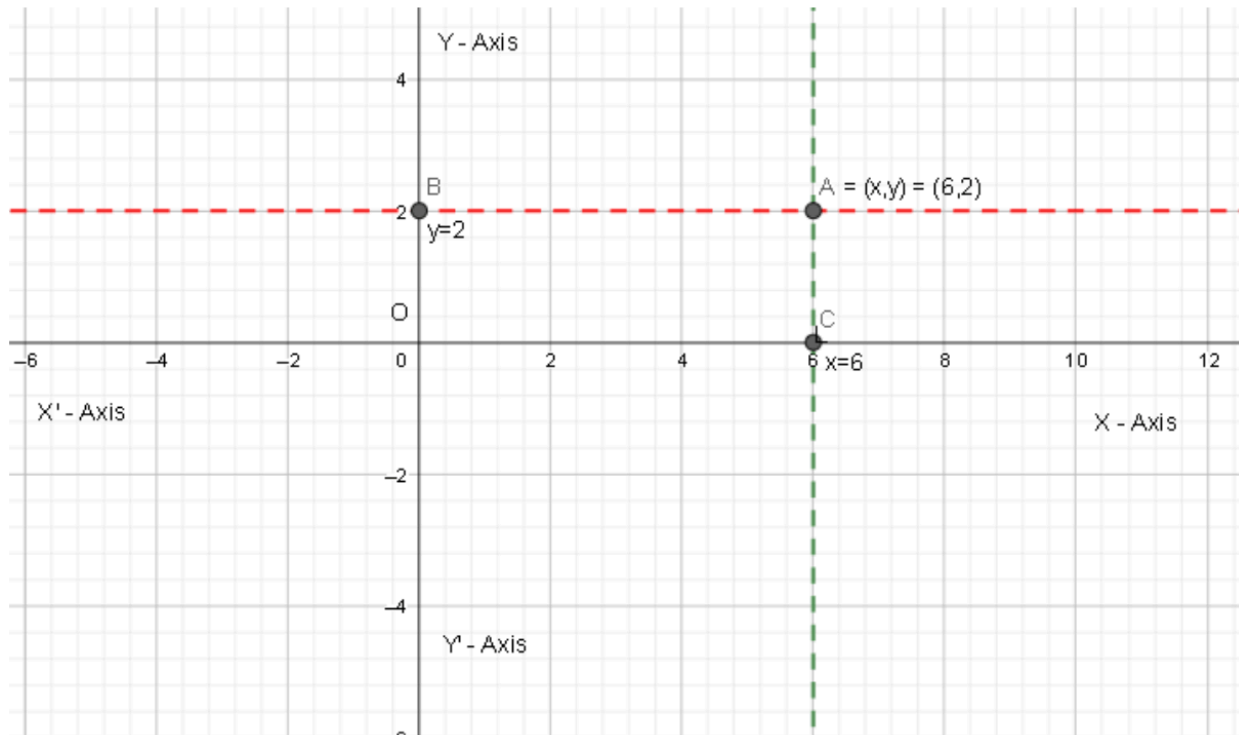
Cartesian Plane

- The Cartesian plane is a two-dimensional coordinate system consisting of two perpendicular lines called axes.
- These axes intersect at a point called the origin, denoted as O.
- The horizontal axis is called the x-axis, while the vertical axis is called the y-axis.
- The axes divide the plane into four quadrants: I, II, III, and IV.
- Points on the plane are located using ordered pairs of numbers (x, y), where x represents the distance along the x-axis and y represents the distance along the y-axis.
- The coordinates (0, 0) represent the origin, where both x and y are zero.
- Points in the first quadrant have positive x and y coordinates, points in the second quadrant have negative x and positive y coordinates, points in the third quadrant have negative x and y coordinates, and points in the fourth quadrant have positive x and negative y coordinates.

- The Cartesian plane provides a visual representation of geometric figures and allows for the graphical representation of equations and functions.

Benefits of CBSE Class 9 Maths Notes Chapter 3 Coordinate Geometry

- **Concept Clarity**: These notes provide clear explanations of fundamental concepts in coordinate geometry, such as the Cartesian plane, coordinates, distance formula, and section formula. Students can develop a solid understanding of these concepts.
- **Problem-solving Skills**: The notes include various examples and practice problems that help students develop problem-solving skills. By solving these problems, students can reinforce their understanding of coordinate geometry concepts and improve their ability to solve mathematical problems.
- **Visual Representation**: Coordinate geometry involves graphical representation of geometric figures on the Cartesian plane. The notes include diagrams and illustrations that help students visualize geometric shapes and understand their properties.
- **Preparation for Exams**: CBSE Class 9 Maths Notes Chapter 3 are designed to align with the CBSE exam pattern. By studying these notes, students can effectively prepare for their exams and perform well in the mathematics section.