CBSE Class 09 Mathematics

Revision Notes

CHAPTER – 3

COORDINATE GEOMETRY

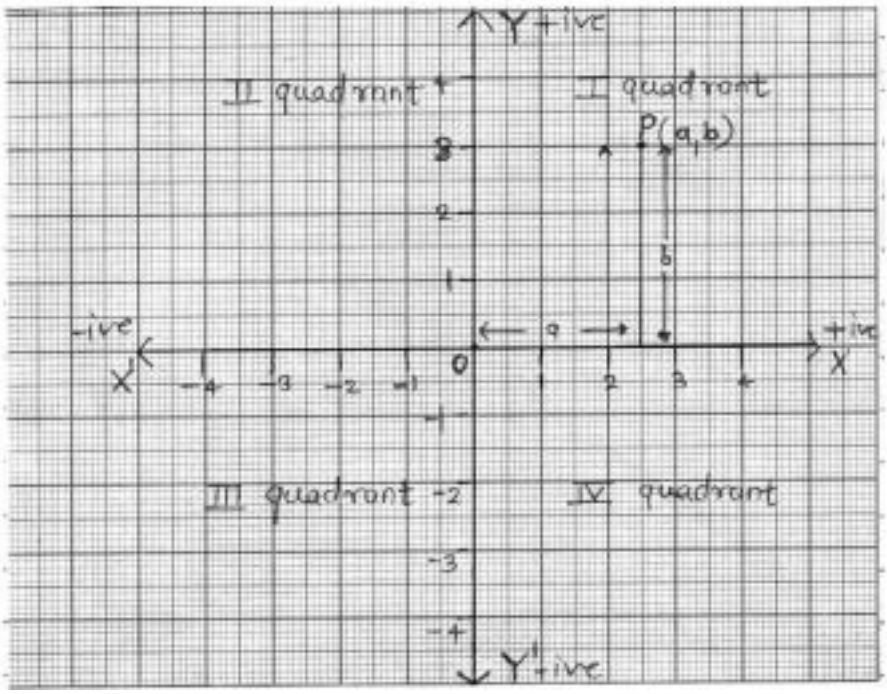
1. Cartesian System

2. Plotting a Point in the Plane with given Coordinates

Coordinate Geometry : The branch of mathematics in which geometric problems are solved through algebra by using the coordinate system is known as coordinate geometry.

Coordinate System

Coordinate axes: The position of a point in a plane is determined with reference to two fixed mutually perpendicular lines, called the coordinate axes.



In this system, position of a point is described by ordered pair of two numbers.

Quadrants: The coordinate axes divide the plane into four parts which are known as quadrants.

Ordered pair : A pair of numbers a and b listed in a specific order with 'a' at the first place and 'b' at the second place is called an ordered pair (a,b)

Note that $(a, b) \neq (b, a)$

Thus (2,3) is one ordered pair and (3,2) is another ordered pair.

In given figure O is called origin.

The horizontal line

XOX' is called the x-axis.

The vertical line YOY' is called the y-axis.

P(a,b) be any point in the plane. 'a' the first number denotes the distance of point from y-axis and 'b' the second number denotes the distance of point from x-axis.

a - X - coordinate | abscissa of P.

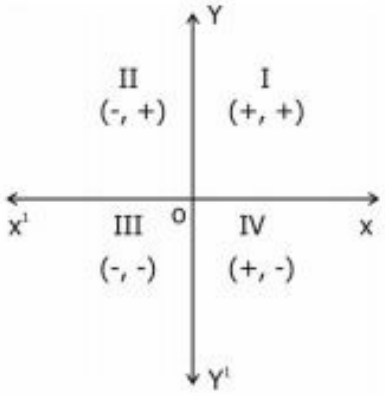
b - Y - coordinate | ordinate of P.

The point of intersection of the coordinate axes is called the **origin**.

The coordinates of origin are (0,0)

Every point on the x-axis is at a distance o unit from the x-axis. So its ordinate is 0.

Every point on the y-axis is at a distance of unit from the y-axis. So, its abscissa is 0.



Note : Any point lying on x- axis or y- axis does not lie in any quadrant.

The sign of coordinates (x, y) of a point in various quadrant are as given below:

Quadrant	Coordinates	
	x	y
I	+	+
II	-	+
III	-	-
IV	+	-