

CBSE Test Paper 01
CH-3 Coordinate Geometry

1. The co-ordinate of origin is
 - a. $(0, 0)$
 - b. $(0, y)$
 - c. none of these.
 - d. $(X, 0)$
2. Ordinate of a point is positive in
 - a. quadrant II only
 - b. quadrant I and II
 - c. quadrant IV and III
 - d. quadrant I only
3. x co-ordinate is known as
 - a. origin
 - b. none of these
 - c. abscissa
 - d. ordinate
4. The equation of y-axis is:
 - a. $x = 0$
 - b. $y = x$
 - c. $y = 0$

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d. none of these

5. If $x < 0$ and $y > 0$, then the point (x, y) lies in

a. I Quadrant

b. II Quadrant

c. IV Quadrant

d. III Quadrant

6. Fill in the blanks:

There are _____ quadrants in 2D Geometry.

7. Fill in the blanks:

The point whose ordinate is 4 and which lies on Y-axis is _____.

8. Write the Co-ordinates of a point which lies on y-axis and is at a distance of 3 units above x-axis. Represent on the graph.

9. Write the name of the point where x and y-axes intersect.

10. In which quadrant will the point lie, if :

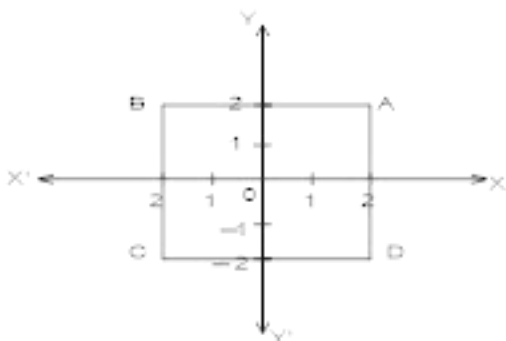
(i) The y-coordinate is 3 and the x-coordinate is -4 ?

(ii) The x-coordinate is -5 and the y-coordinate is -3 ?

(iii) The y-coordinate is 4 and the x-coordinate is 5?

(iv) The y-coordinate is 4 and the x-coordinate is -4 ?

11. Find Co-ordinates of vertices of rectangle ABCD.



12. Name the quadrant in which the following points lie: (i) $(5, -7)$ (ii) $(-2, 1)$ (iii) $(4, -8)$
13. In which quadrant or on which axis do each of the points $(-2, 4)$, $(2, -1)$, $(-1, 0)$, $(1, 2)$ and $(-3, -5)$ lie? Verify your answer by locating them on the Cartesian plane.
14. Draw the graphs of the equations : $3x - 2y = 4$ and $x + y - 3 = 0$ in the same graph and find the co-ordinates of the point where two lines intersect.
15. (Street Plan): A city has two main roads which cross each other at the centre of the city. These two roads are along the North-South direction and East-West direction. All the other streets of the city run parallel to these roads and are 200 m apart. There are 5 streets in each direction. Using $1\text{cm} = 200\text{ m}$, draw a model of the city on your notebook. Represent the roads/streets by single lines. There are many cross- streets in your model. A particular cross-street is made by two streets, one running in the North-South direction and another in the East-West direction. Each cross street is referred to in the following manner: If the 2nd street running in the North-South direction and 5th in the East-West direction meet at some crossing, then we will call this cross-street $(2, 5)$. Using this convention, find:
 - i. how many cross - streets can be referred to as $(4, 3)$.
 - ii. how many cross - streets can be referred to as $(3, 4)$.

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Solution

1. (a) $(0, 0)$

Explanation:

The center of the coordinate system (where the lines intersect) is called the origin.

The axes intersect when both x and y are zero.

The coordinates of the origin are $(0, 0)$.

2. (b) quadrant I and II

Explanation:

Since, sign of point in 1st quadrant is $(+, +)$,

And in second quadrant it is $(-, +)$

So, Ordinate of a point is +ve only in 1st and 2nd quadrant

3. (c) abscissa

Explanation:

Any point p in cartesian plane is written as $p(x, y)$

x co-ordinate of point p is called abscissa and y co-ordinate of point p is called ordinate.

4. (a) $x = 0$

Explanation:

The value of abscissa or x -coordinate is always zero at any point on y -axis.

So, $x = 0$ is the equation of y -axis.

5. (b) II Quadrant

Explanation:

Here, $x < 0$ (i.e. —ve) and $y > 0$, (i.e. +ve)

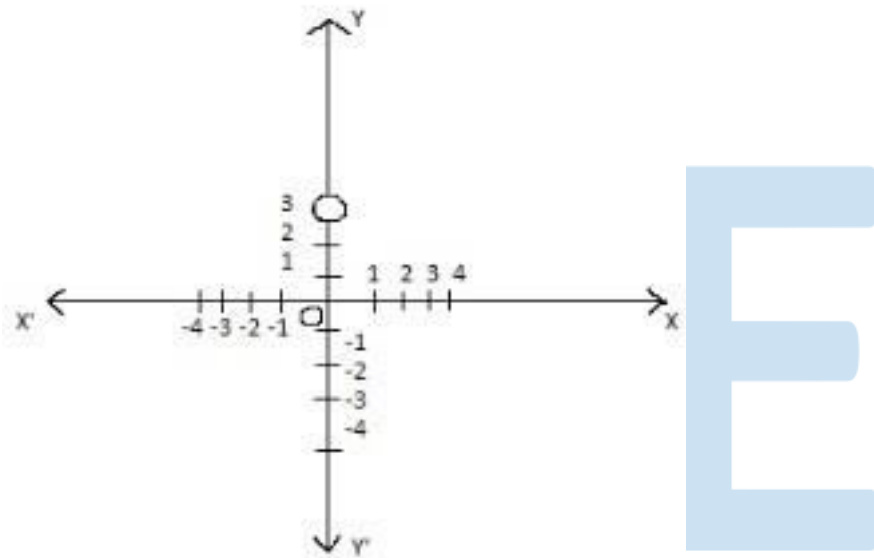
So in 2nd quadrant value of (x, y) is

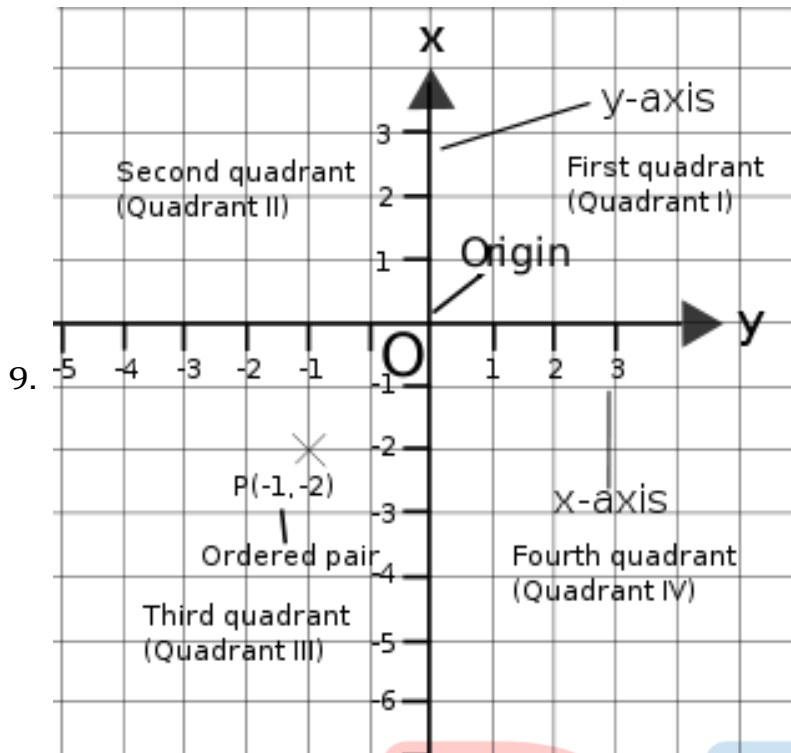
$(—, +)$ so the given point will lie in 2nd quadrant.

6. Four

7. $(0, 4)$

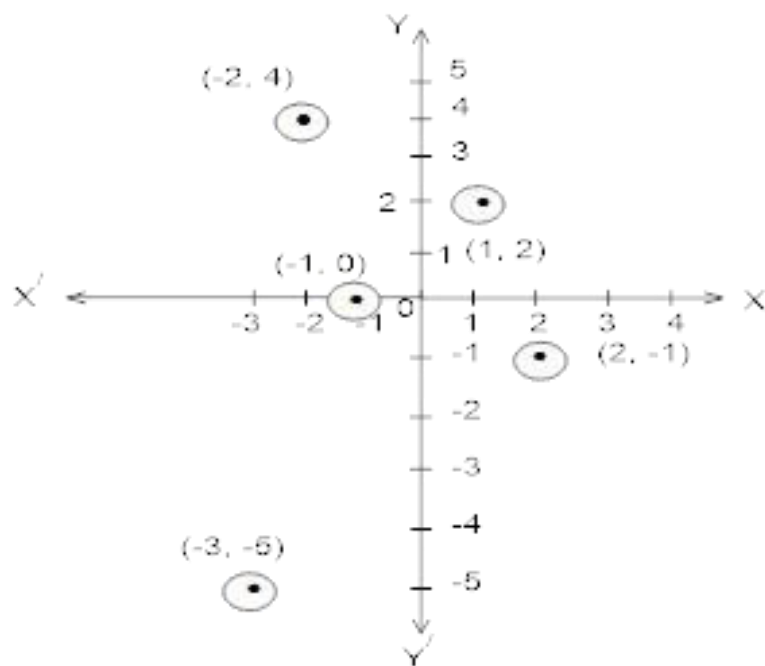
8. The Co-ordinates of the point which lies on y-axis and at a distance of 3 units above x-axis is $(0, 3)$.





The origin.

10. (i) II
(ii) III
(iii) I
(iv) II
11. The co-ordinates of vertices of rectangle A (2, 2), B (-2, 2), C (-2, -2) and D (2, -2). it is a square.
12. (i) IV quadrant
(ii) II quadrant
(iii) IV quadrant
13. (-2, 4) lies in II quadrant.
(2, -1) lies in IV quadrant.
(-1, 0) lies on -ve x-axis.
(1, 2) lies in I quadrant.
(-3, -5) lies in III quadrant.



14. Graph of equation $3x - 2y = 4$,

We have, $3x - 2y = 4$, $3x - 4 = 2y$

$$\Rightarrow y = \frac{3}{2}x - 2$$

$$\text{Let } x = 0 : y = \frac{3}{2}(0) - 2 = 0 - 2 = -2$$

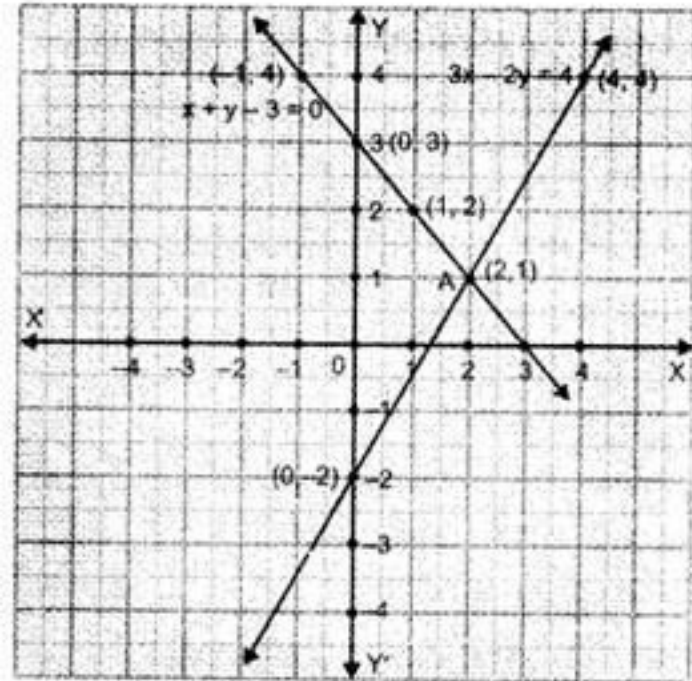
$$\text{Let } x = 2 : y = \frac{3}{2}(2) - 2 = 3 - 2 = 1$$

$$\text{Let } x = 4 : y = \frac{3}{2}(4) - 2 = 6 - 2 = 4$$

Thus, we have the following table :

x	0	2	4
y	-2	1	4

Now, plot the points $(0, -2)$, $(2, 1)$ and $(4, 4)$ on a graph paper and join them by a line.



Graph of the equation $x + y - 3 = 0$

$$x + y - 3 = 0$$

$$\Rightarrow y = -x + 3$$

$$\text{Let } x = 0 : y = -0 + 3 = 3$$

$$\text{Let } x = 1 : y = -1 + 3 = 2$$

$$\text{Let } x = -1 : y = -(-1) + 3 = 1 + 3 = 4$$

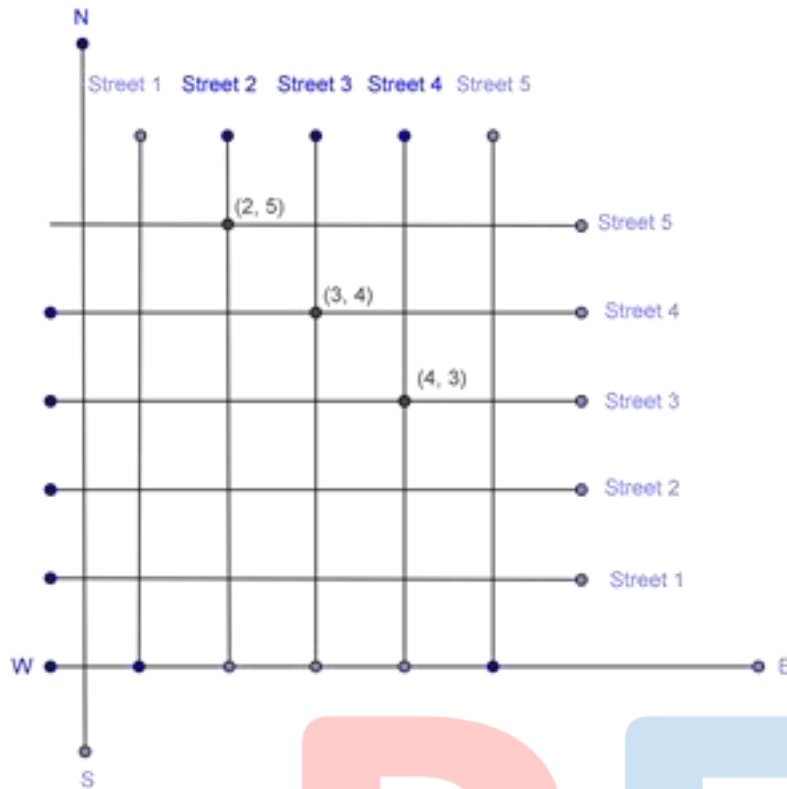
Thus, we have the following table :

x	0	1	-1
y	3	2	4

By plotting the points (0, 3), (1, 2) and (-1, 4) on the graph paper and joining them by a line, we obtain the graph of $x + y - 3 = 0$

The lines represented by the equations $3x - 2y = 4$ and $x + y - 3 = 0$ intersect at point A whose co-ordinates are (2, 1).

- We need to draw two perpendicular lines as the two main roads of the city that cross each other at the center and let us mark it as N-S and E-W. Let us take the scale as 1 cm = 200m. We need to draw five streets that are parallel to both the main roads, to get the given below figure.



- i. From the figure, we can conclude that only one point have the coordinates as (4, 3).

Therefore, we can conclude that only one cross - street can be referred to as (4, 3).

- ii. From the figure, we can conclude that only one point have the coordinates as (3,4).

Therefore, we can conclude that only one cross - street can be referred to as (3, 4).