

Subject – Maths.

Class- 9 Topic – Ch. 3 Coordinate Geometry

Refer to Video #8 and solve the following exercise: I

Practice Exercise 3.1

1. Write the answer of each of the following questions :

- What is the name of horizontal and vertical lines drawn to determine the position of any point in the cartesian plane ?
- What is the name of each part of the plane formed by these two lines ?
- Write the name of the point where these two lines intersect.

2. See Fig. 3.8, and write the following :

- The coordinates of B.
- The coordinates of C.
- The point identified by the coordinates $(-3, -5)$.
- The point identified by the coordinates $(2, -4)$.
- The abscissa of the point D.
- The ordinate of the point H.
- The coordinates of the point L.
- The coordinates of the point M.

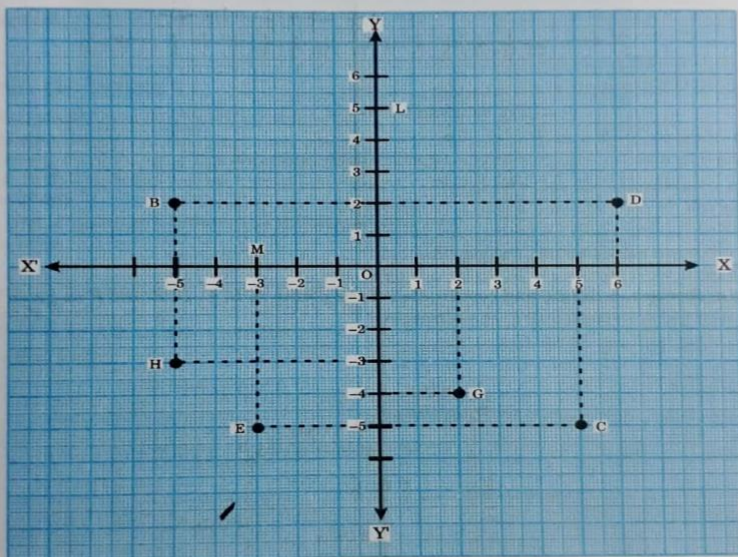


Fig. 3.8

3. Fill in the blanks :

- The horizontal line XOX' is known as the ...
- The axes divide the cartesian plane into four ...
- The ordinate of a point on the x-axis is ...
- Coordinates of the point of intersection of the x-axis and y-axis in the cartesian plane are ...
- Coordinates of a point on the y-axis is of the form ...
- In the fourth quadrant the abscissa is ... and ordinate is ...
- If the perpendicular distance of a point P from the x-axis is 5 units in the positive direction of y-axis and perpendicular distance of P from the y-axis is 7 units in the negative direction of x-axis, then coordinates of P are ...

4. State whether the following statements are true or false :

- The distance of the point along x axis from the origin O is called abscissa of the point.
- YOX is called the IIIrd quadrant of the cartesian plane.
- Coordinates of a point on the x-axis is of the form $(0, x)$.

- (iv) In the second quadrant, the abscissa is negative and ordinate is positive.
 (v) The coordinates of the origin are (0, 0).
 5. Write the coordinates of each of the points A, B, C, D, E in Fig. 3.9.

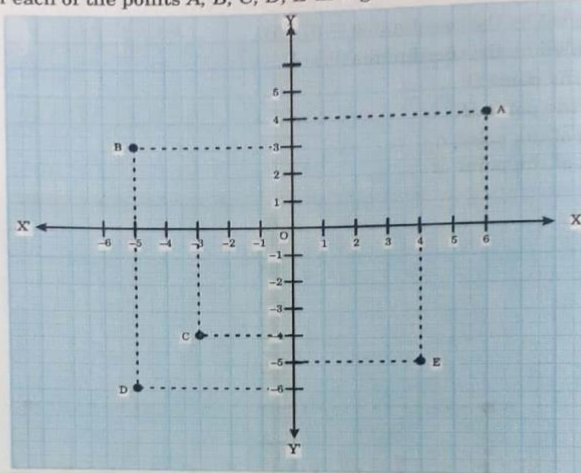


Fig. 3.9

6. Write down the abscissa, ordinate and coordinates of the points A, B, C, D, E and F as given in the Fig. 3.11.

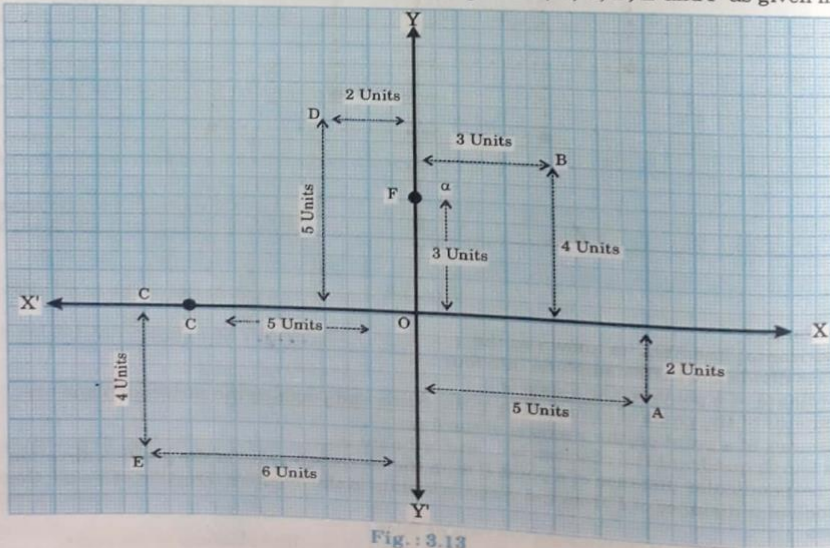


Fig. : 3.11

7. Find the coordinates of the point :
 (i) Whose abscissa is -3 and lies on the x-axis.
 (ii) Whose ordinate is 5 and lies on the y-axis.
 (iii) Whose abscissa is 4 and lies on the x-axis.
 (iv) Which lies on both the axes.
 8. Which of the following points lies on the x-axis :
 $P(3, 0)$, $Q(0, 0)$, $R(0, -2)$, $S(2, 5)$, $T(0, 4)$, $U(-4, 0)$, $V(-7, -7)$, $W(-1, 0)$
 9. Which of the following points lies on the y-axis :
 $A(0, -3)$, $B(4, 0)$, $C(0, 1)$, $D(4, -5)$, $E(0, 0)$, $F(-7, 0)$, $G(-3, 0)$, $H(0, 5)$
 10. In which quadrant each of the following points lie :
 (i) (3, -4) (ii) (5, 5) (iii) (-6, -3) (iv) (-9, 3)

Practice Exercise 3.2

1. In which quadrant or on which axis do each of the points $(-2, 4)$, $(3, -1)$, $(-1, 0)$, $(1, 2)$ and $(-3, -5)$ lie? Verify your answer by locating them on the Cartesian plane.

2. Plot the points (x, y) given in the following table on the plane, choosing suitable units of distance on the axes.

x	-2	-1	0	1	3
y	8	7	-1.25	3	-1

3. Locate the points $(3, 0)$, $(-3.5, 2.5)$, $(5.5, -3.5)$, $(-3.5, -4.5)$ and $(0, -5.5)$ in the cartesian plane.
4. Plot the points (x, y) given in the following table on the plane, choosing a suitable scale $1 \text{ cm} = 0.5 \text{ unit}$ on the axes.

x	3.5	-0.5	-1.5	1.0	-2.75
y	1.5	1.25	-1.75	-2.25	0.75

5. Plot the following points and state whether they are collinear or not?

(i) $A(-1, 2)$, $B(2, 0)$ and $C(5, -2)$

(ii) $K(3, 2)$, $L(-2, -2)$ and $M(2, -1)$

(iii) $O(0, 0)$, $P(2, 2)$ and $Q(5, 5)$

[NCERT Exemplar Problems]

6. Draw the triangle ABC , whose vertices are $A(6, 2)$, $B(3, -1)$ and $C(-2, 4)$.

7. Plot the following points and write the name of the quadrilateral so formed in each case:

(i) $A(1, 1)$, $B(6, 2)$, $C(7, 6)$ and $D(2, 5)$

(ii) $A(1, 1)$, $B(2, 4)$, $C(8, 4)$ and $D(10, 1)$

(iii) $A(-2, -2)$, $B(-4, 2)$, $C(-6, -2)$ and $D(-4, -6)$

8. Three vertices of a rectangle are $(3, 2)$, $(-4, 2)$ and $(-4, 5)$. Plot these points and find the coordinates of the fourth vertex. [NCERT Exemplar Problems]