Section-I

Very Very Short Answer (1 Marks)

1. The distance of a point form x-axis is called _____.
2. The distance of a point from y-axis is called _____.
3. In which quadrant will a point lie if its both the coordinates are positive?
4. Find the point at which two coordinate axes meet.
5. Write the coordinates of the point which lies at a distance of x-units from x-axis and y units from y-axis.
6. Find the coordinates of the point which lies on x-axis at a distance of 5 units from y-axis.
7. Find the coordinates of the point which lies on y-axis at a distance of 9 units from x-axis in negative direction.
8. In which quadrant in a cartesion plane the ordinate of a point will be positive and abscissa will be negative?
9. Point (6,-8) will lie in which quadrant ?
10. In which quadrant will a point lie if its ordinate and abscissa both have negative signs?
11. On which axis the point A(-3,0) lie?
12. If the coordinates of the points are P (-2,3) and Q (-3,5) then abscissa of P- abscissa of Q is _____.
13. The measure of the angle between coordinate axes is _____.
14. The perpendicular distance of the point p(-4,-3) from x-axis is _____.
15. The coordinate axes divide the plane info four parts which are called _____ .
16. The point (200, –111) lies in the _____ quadrant.
17. The abscissa of any point on the y-axis is _____ .
18. The ordinate of any point on the x-axis is _____ .
19. The points (0,0), (0,4), and (4,0) form a/an _____ triangle.
20. If (x, y) represents a point and x>0,y>0, then the point will lie in _____ quadrant.

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21. The points with coordinates (3, –1) and (–1, 3) are at _____ (same/different) positions of the coordinate plane.

22. If the ordinate of point is 7 and abscissa is –5, then its coordinates are _____ .

23. The coordinates of a point whose abscissa is 5 and which lie on x-axis are _____.

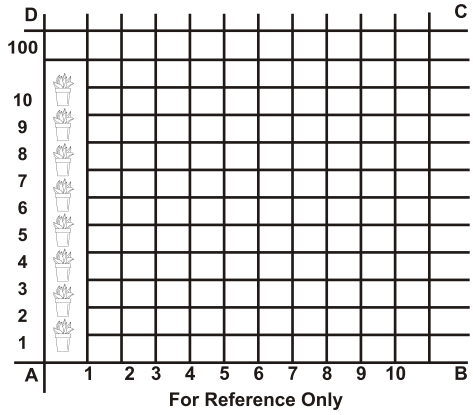
24. Find the image of the point (2,3) under x-axis.

25. Find the mirror image of the point (-5,6) about y-axis.

Case study based questions (4 marks)

26. To make the students aware of personal health and hygiene a race was organized on rectangular playground ABCD of a school. LInes have been drawn with chalk powder at a distance of 1m each. 100 flower ports have been placed at a distance of 1m from each other along AD. Muskan runs $\frac{1}{4}$ of the distance AD on the third line and posts a red flag. Mayank runs $\frac{1}{5}$ of the distance AD on the 7th line and posts a green flag.

Based on the above information, answer the following questions.



For Reference Only

(i) The coordinates of red flag are

(a) (25,3) (b) (100,3)

(c) (3,25) (d) (3,100)

(ii) What are the coordinates of green flag?

(a) (100,7) (b) (7,100)

(c) (20,7) (d) (7,20)

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(iii) How far Muskan had to run to fix the red flag?

(a) 3m (b) 25m

(c) 100m (d) Non of these

(iv) How far Mayank had to run to fix green flag?

(a) 7m (b) 20m

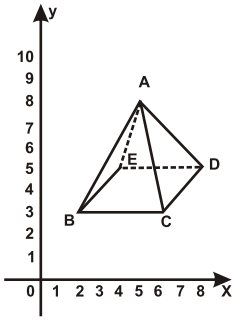
(c) 100m (d) Non of these

(v) How far is the green flag from the red flag?

(a) $\sqrt{3}$m (b) $\sqrt{41}$m

(c) $\sqrt{10}$m (d) None of these

27. The diagram shows a model of pyramid placed on a cartesian plane in a mathematics lab in a school. Based on the diagram, answer the following questions-



(i) What are the coordinates of the axis of the pyramid ?

(a) (2,3) (b) (6,3)

(c) (4,5) (d) (5,8)

(ii) How much is the perpendicular distance between the edges BC and ED?

(a) 3 units (b) 2 units

(c) 1 unit (d) 4 units

(iii) If the pyramid is moved 2 units to the right, what will be the coordinates of vertex D?

(a) (10,5) (b) (8,5)

(c) (8,7) (d) (10,7)

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(iv) If the pyramid is moved 3 units below its actual position, what will be the coordinates of vertex B.

(a) (2,3) (b) (3,2)

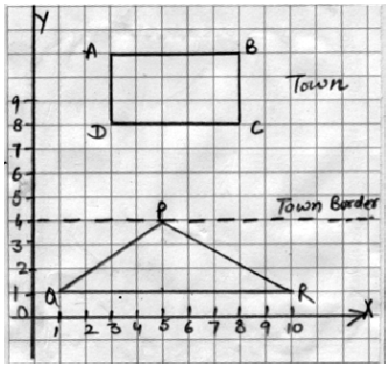
(c) (2,0) (d) (0,2)

(v) If the vertex B should lie on the origin, what will be the coordinates of vertex E?

(a) (2,2) (b) (3,3)

(c) (4,4) (d) None of these

28. MNQ school provide free education to underpreviliged childern. Municipal corporation of a city wants to open an ABC school in the town on a rectangular plot ABCD as shown in figure. But this plot belongs to Amar Singh who has agreed to exchange it with a triangular plot PQR out of the town as shown in figure. Based on the above information, answer the following questions:



(i) What are the coordinates of vertex C of rectangular plot

(a) (0,0) (b) (8,8)

(c) (4,4) (d) (4,8)

(ii) What is the area of rectangular plot ?

(a) 5 sq. units (b) 3 sq. units

(c) 15 sq. units (d) 10 sq. units

(iii) What is the area of triangular plot ?

(a) 10 sq. units (b) 15 sq. units

(c) 5 sq. units (d) 13.5 sq. units

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(iv) Which statement is true in respect of the areas of two plots?

(a) Ar (ABCD)> Ar (PQR) (b) Ar(ABCD)< Ar (PQR)

(c) Ar (ABCD)=Ar (PQR) (d) Ar (ABCD)=2Ar(PQR)

(v) Find the ratio of Ar (ABCD) to Ar (PQR)

(a) 1 : 2 (b) 3 : 4

(c) 10 : 9 (d) 3 : 5

Very Short Answer Type Questions (2 Marks)

29. Find the co-ordinates of two points on x-axis and two points on y-axis which are at equal distance from the origin.

30. Name the quadrant in which the graph of point A(x,y) lies when

(i) x>0 and y>0 (ii) x<0 and y<0

31. On plotting the points 0(0,0), A(4,0), B(4,3) and c(0,3) and joining OA, AB, BC and CD, which shape is formed?

32. Plot a point P(5,6) on the graph paper. Now plot the reflections of this point on x-axis and y-axes.

33. Find the coordinates of the vertices of a rectangular figure placed in III quadrant in the cartesian plane with laught p units on x-axis and breadth q units on y-axes.

34. Plot the points A(1,-1) and B(4,5) on a cartesian plane and draw a line segment joining these points. Now, write the coordinates of any one point on this line segment which lies between the points A and B.

Short Answer Type Questions (3 Marks)

35. Draw a line segment on a graph paper whose end points lies in first quadrant and third quadrant. Write the coordinates of its end points and mid point of line segment.

36. Plot the points A (2, 4) & B (2, –5). Is this line AB parallel to any of the axes. If yes, to which axis is it parallel?

37. Plot the points P (2, –3) & Q (–5, –3). To which axis the line P Q is parallel?

38. Plot the points A (7, 6) & B (7, –6) on graph paper. Join them & answer the following :

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(i) Write the coordinate of the point where line AB cuts the x-axis.

(ii) To which axis, line AB is parallel ?

39. Draw a triangle ABC on graph paper having the coordinates of its vertices as A (–2, 0), B (4, 0) and C (1, 5). Also find the area of triangle.

40. If we plot the points P(5, 0), Q (5, 5), R(–5, 5) and S (–5, 0), which figure will we get? Name the axis of symmetry of this figure?

41. Find the coordinates of a point which is equidistant from the two points (–4, 0) and (4, 0). How many of such points are possible satisfying this condition?

42. Draw a quadrilateral with vertices A (4, 3), B(–4, 3), C(–4, –3) and D(4, –3). Draw its diagonals and write the coordinates of the point where the diagonals cut each other.

43. A rectangular field is of length 10 units & breadth 8 units. One of its vertex lie on the origin. The longer side is along x-axis and one of its vertices lie in first quadrant. Find all the vertices.

44. Plot the point B (5, 3), E(5, 1), S(0, 1) and T(0, 3) and answer the following :

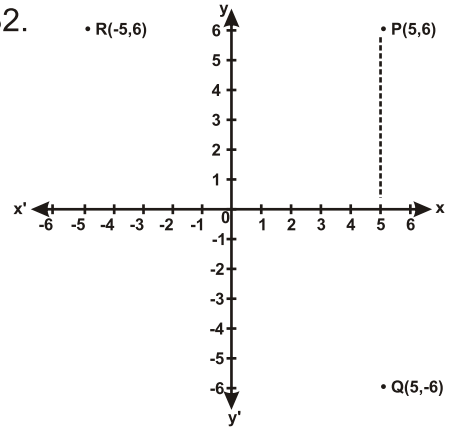
i) Join the points and name the figure obtained.

ii) Find the area of figure.

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Hints and Solutions/Answers

1. Ordinate
2. Abscissa
3. I-quadrant
4. (0,0)
5. (y,x)
6. (5,0) or (-5,0)
7. (0,-9)
8. II uadrant
9. IV quadrant
10. III quadrant
11. x-axis
12. 1
13. 90°
14. 3 units
15. quadrants
16. IV quadrant
17. 0
18. 0
19. isosceles
20. I
21. different
22. (-5,7)
23. (5,0)
24. (2,-3)
25. (5,6)
26. (i) (c)
    (ii) (d)
    (iii) (b)
    (iv) (b)
    (v) (b)
27. (i) (d)
    (ii) (b)
    (iii) (a)
    (iv) (c)
    (v) (a)
28. (i) (b)
    (ii) (c)
    (iii) (d)
    (iv) (a)
    (v) (c)
29. (± a, 0), (0, ± a), where a is any real number.
30. (i) I quadrant
    (ii) III quadrant
31. Rectangle
32. 

33. (o,o), (-p,o), (-p,-q), (o,-q)
36. Yes, Y-axis
37. X- axis
38. (7,0), Y-axis
39. 15 sq. units
40. Rectangle, Y-axis
41. Any point on Y-axis, Infinite
42. (0,0.)
43. (0,0), (10,0), (10,8) (0,8)
44. (i) Rectangle
    (ii) 10 sq. units.

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Practice Test

COORDINATE GEOMETRY

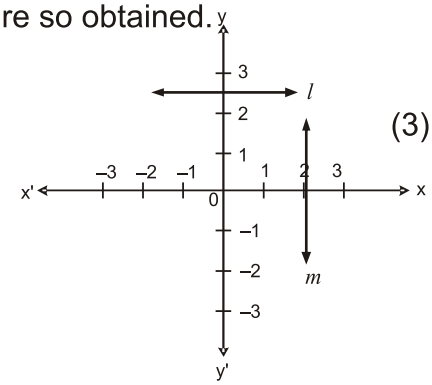
Time : 1 Hr. M.M. 25

1. In which quadrant, the point (x, y) will lie, where x is positive and y is negative number? (1)
2. Write the y-coordinate of a point which lies on x-axis. (1)
3. If (x,y)=(y,x), then find the value of (x-y) (1)
4. Find the value of x and y if: (2)
   (a) (x – 4, 7) = (4, 7)
   (b) (1, 2y – 3) = (1, 7)
5. What is the distance of a point (7, 6) from x-axis and y-axis? (2)
6. Draw the quadrilateral, whose vertices are A(3,2), B(2,3), C(-4,5), D(5,-3) (2)

   OR

   In which quadrant, do the following points lie?
   (i) (4,-2) (ii) (-3,7) (iii) (-1,-2) (iv) (3,6)
7. Plot the following points in a Cartesian plane and join the points to find the area of the figure so obtained. (3)
   (–3, 5), (–2, 0), (–4, 0)
8. Write the equations of lines ***l*** and m as shown in the figure. (3)

   Also name the line which is represented by x = 0.



9. Plot the points O(0, 0), A(4, 0) and C(0, 6). Find the coordinates of the fourth point B such that OABC forms a rectangle. (5)
10. The base AB of two equilateral triangles ABC and ABD with side 2a, lies along the x-axis such that the mid point of AB is at the origin. Find the coordinates of two vertices C and D of the triangles. (5)

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