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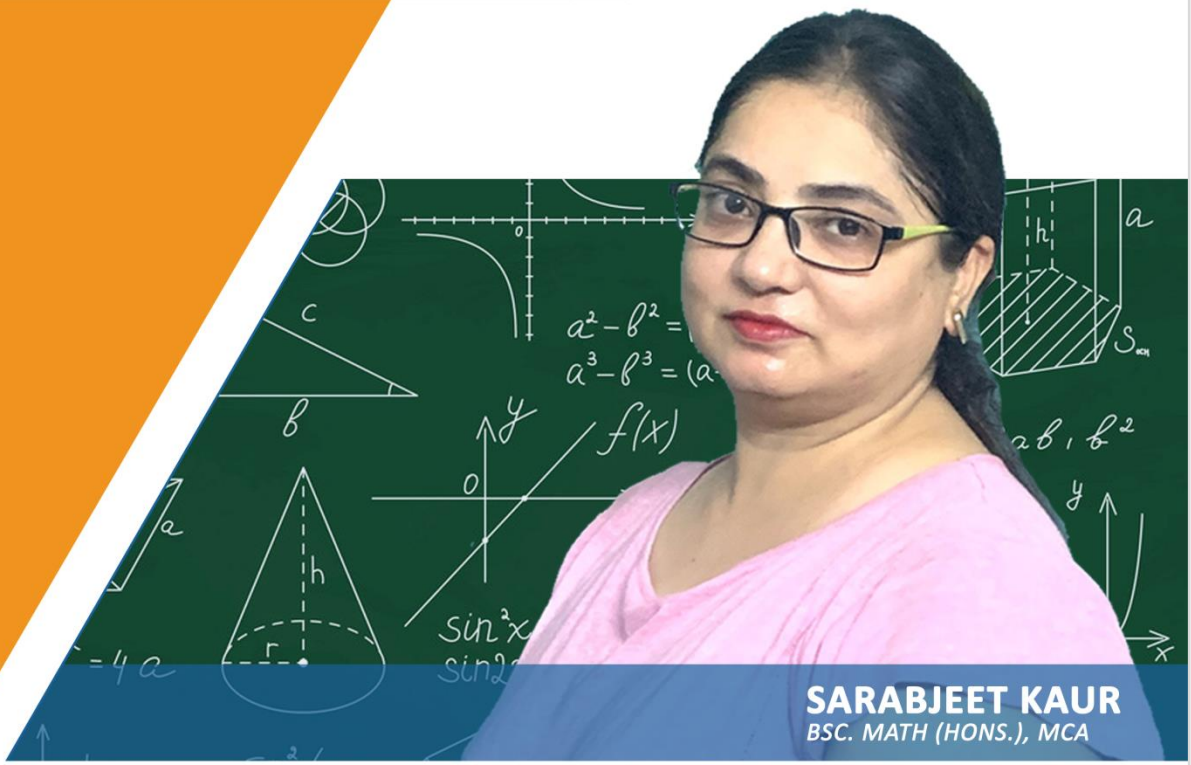

GRADE 9TH MATHS

CHAPTER 3

CO-ORDINATE GEOMETRY

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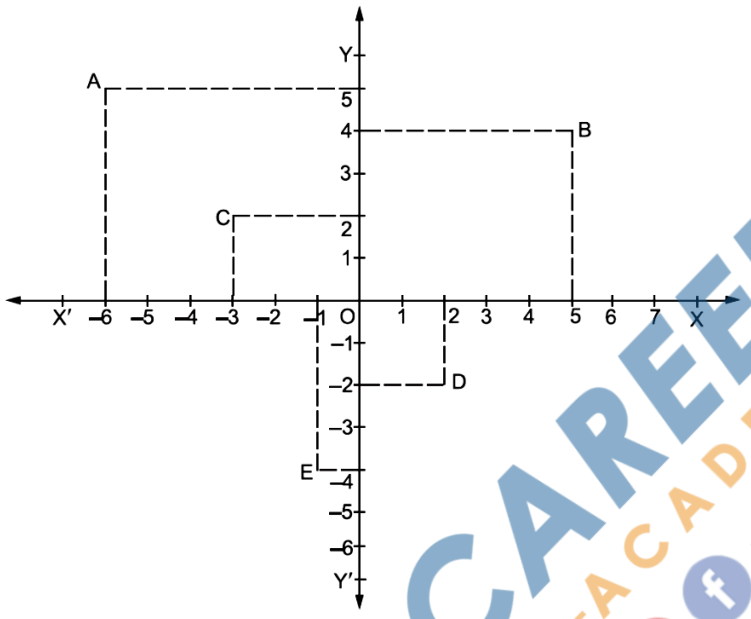
1. On the plane of a graph paper draw $X'OX$ and YOY' as coordinate axes and plot each of the following points.

   (i) $A(5, 3)$ (ii) $B(6, 2)$ (iii) $C(-5, 3)$ (iv) $D(4, -6)$
   (v) $E(-3, -2)$ (vi) $F(-4, 4)$ (vii) $G(3, -4)$ (viii) $H(5, 0)$
   (ix) $I(0, 6)$ (x) $J(-3, 0)$ (xi) $K(0, -2)$ (xii) $O(0, 0)$

2. Write down the coordinates of each of the following points A, B, C, D and E.



3. For each of the following points, write the quadrant in which it lies.

   (i) $(-6, 3)$ (ii) $(-5, -3)$ (iii) $(11, 6)$ (iv) $(1, -4)$
   (v) $(-7, -4)$ (vi) $(4, -1)$ (vii) $(-3, 8)$ (viii) $(3, -8)$

4. Write the axis on which the given point lies.

   (i) $(2, 0)$ (ii) $(0, -5)$ (iii) $(-4, 0)$ (d) $(0, -1)$

5. Which of the following points lie on the x-axis?

   (i) $A(0, 8)$ (ii) $B(4, 0)$ (iii) $C(0, -3)$ (iv) $D(-6, 0)$
   (v) $E(2, 1)$ (vi) $F(-2, -1)$ (vii) $G(-1, 0)$ (viii) $H(0, -2)$

6. Plot the points $A(2, 5)$, $B(-2, 2)$ and $C(4, 2)$ on a graph paper. Join AB, BC and AC. Calculate the area of $\triangle ABC$.

7. Three vertices of a rectangle $ABCD$ are $A(3, 1)$, $B(-3, 1)$ and $C(-3, 3)$. Plot these points on a graph paper and find the coordinates of the fourth vertex D. Also, find the area of rectangle $ABCD$.

   HINT Coordinates of D are $(3, 3)$.

MULTIPLE-CHOICE QUESTIONS (MCQ)

Choose the correct answer in each of the following questions:

1. In which quadrant does the point (–7, –4) lie?

(a) IV (b) II (c) III (d) None of these

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

(a) I (b) III (c) II (d) IV

3. If $a < 0$ and $b > 0$ then the point (a, b) lies in quadrant

(a) IV (b) II (c) III (d) none of these

4. A point both of whose coordinates are negative lies in quadrant

(a) I (b) II (c) III (iv) IV

5. The point (other than origin) for which abscissa is equal to the ordinate will lie in the quadrant

(a) I only (b) I or II (c) I or III (d) II or IV

6. The points (–5, 3) and (3, –5) lie in the

(a) same quadrant

(b) II and III quadrants respectively

(c) II and IV quadrants respectively

(d) IV and II quadrants respectively

7. Points (1, –1), (2, –2), (–3, –4), (4, –5)

(a) all lie in the II quadrant (b) all lie in the III quadrant

(c) all lie in the IV quadrant (d) do not lie in the same quadrant

8. Point (0, –8) lies

(a) in the II quadrant (b) in the IV quadrant

(c) on the x-axis (d) on the y-axis

9. Point (–7, 0) lies

(a) on the negative direction of the x-axis

(b) on the negative direction of the y-axis

(c) in the III quadrant

(d) in the IV quadrant

10. The point which lies on the y-axis at a distance of 5 units in the negative direction of the y-axis is

(a) $(-5, 0)$ (b) $(0, -5)$ (c) $(5, 0)$ (d) $(0, 5)$

11. The ordinate of every point on the x-axis is

(a) 1 (b) -1

(c) 0 (d) any real number

12. If the y-coordinate of a point is zero then this point always lies

(a) on the y-axis (b) on the x-axis

(c) in the I quadrant (d) in the IV quadrant

13. If $O(0, 0)$, $A(3, 0)$, $B(3, 4)$, $C(0, 4)$ are four given points then the figure $OABC$ is a

(a) square (b) rectangle (c) trapezium (d) rhombus

14. If $A(-2, 3)$ and $B(-3, 5)$ are two given points then (abscissa of A) – (abscissa of B) = ?

(a) -2 (b) 1 (c) -1 (d) 2

15. The perpendicular distance of the point $A(3, 4)$ from the y-axis is

(a) 3 (b) 4 (c) 5 (d) 7

16. Abscissa of a point is positive in

(a) I and II quadrants (b) I and IV quadrants

(c) I quadrant only (d) II quadrant only

17. The point at which the two coordinate axes meet is called the

(a) abscissa (b) ordinate (c) origin (d) quadrant

18. The point whose ordinate is 3 and which lies on the y-axis is

(a) $(3, 0)$ (b) $(0, 3)$ (c) $(3, 3)$ (d) $(1, 3)$

19. Which of the following points lies on the line $y = 2x + 3$?

(a) $(2, 8)$ (b) $(3, 9)$ (c) $(4, 12)$ (d) $(5, 15)$

20. Which of the following points does not lie on the line $y = 3x + 4$?

(a) $(1, 7)$ (b) $(2, 10)$ (c) $(-1, 1)$ (d) $(4, 12)$

21. Which of the following points does not lie in any quadrant?

(a) $(3, -6)$ (b) $(-3, 4)$ (c) $(5, 7)$ (d) $(0, 3)$

22. The area of $\triangle AOB$ having vertices $A(0, 6)$, $O(0, 0)$ and $B(6, 0)$ is

(a) 12 sq units (b) 36 sq units (c) 18 sq units (d) 24 sq units