

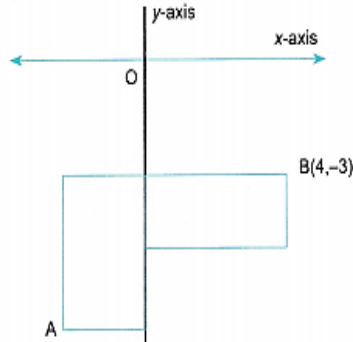
PRE-MID PRACTICE QUESTIONS

1. A (5, 1), B (1, 4) and C (8, 5) are the coordinates of the vertices of a triangle. Which of the following types of triangle will $\triangle ABC$ be?

- (a) Equilateral triangle (b) Scalene right-angled triangle (c) Acute angled triangle (d) Right-angled triangle

2. Shown below are 2 identical rectangles such that their breadth is half their length.

What are the co-ordinates of point A?



- (a) (4, -5) (b) (-4, -6) (c) (-2, -7) (d) (-2, -9)

3. The point (6, -5) lies in which of the following quadrant

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

4. The distance between the points P(6, 0) and Q(-2, 0) is

- (a) 2 units (b) 8 units (c) 6 units (d) 4 units

5. Which of the following is x-coordinate of all points on the y-axis'?

- (a) 0 (b) 1 (c) 2 (d) any number

Choose the correct option from the following:

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

6. **Assertion (A):** Point A (-2, -6) lies in III quadrant.

Reason (R): A point both of whose coordinates are negative lies in III quadrant.

7. **Assertion (A):** The value of y is 6, for which the distance between the points P (2, -3) and Q (10, y) is 10.

Reason (R): Distance between two given points A (x_1, y_1) and B (x_2, y_2) is given by $AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}.$$

8. Find a point on the y-axis equidistant from (-5, 2) and (9, -2).

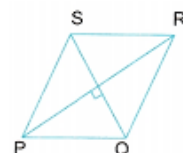
9. Find the distance of the point (3, -4) from the origin.

10. If A (-2, 4), B (0, 0) and C (4, 2) are the vertices of $\triangle ABC$, then find the length of the median through the vertex A.

11. If the points A (4, 3) and B (x, 5) are on the circle with the centre O(2, 3), find the value of x.

12. A square is inscribed in a circle of radius 2 cm with centre O at the origin. All 4 vertices of the square lie on the coordinate axes. Use the distance formula to find the length of the side of the square. Show your work.

13. The three vertices of a rhombus PQRS are P(2, -3), Q(6, 5) and R(-2, 1).



(i) Find the coordinates of the point where both the diagonals PR and QS intersect.

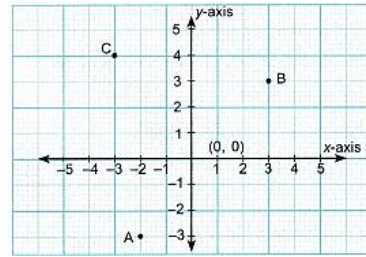
(ii) Find the coordinates of the fourth vertex S.

14. Find the coordinates of the midpoint of the line segment joining $(4, 3)$ and $(-2, -1)$.

15. If $A(0, 2)$ is equidistant from $B(3, a)$ and $C(a, 5)$. Find the value of a .

16. Shown below is a coordinate grid with points A, B, and C plotted on it.

Find the length of all the sides of the triangle formed by A, B, and C.



17. Graph the points $P(2, 0)$, $L(1, 1)$, $A(-1, 1)$, $N(-2, 0)$, $E(-1, -1)$ and $T(1, -1)$, and draw the hexagon PLANET.

18. KB schools provide free education to girls students from weaker sections. The local body of a town want to open a KGB school in the town for which a rectangular plot ABCD, as shown in the following figure, is very suitable. But this plot belongs to Rati Ram. Rati Ram agrees to exchange it with triangular plot PQR as shown in the same figure. The coordinates of the vertices of both the plots are shown in the figure.

(i) Find the area of rectangular plot ABCD.

(ii) Find the area of triangular plot PQR.

(iii) Compare the areas of both the plots.

OR

If Coordinate A $(2, 8)$ and B $(8, 8)$ shift to $A'(2, 7)$ and $B'(8, 7)$, then find the area of rectangle.

