

Questions Bank: L- 7: Coordinate Geometry

Multiple choice questions:

- The distance of the point $P(2, 3)$ from the x-axis is:
(a) 2 (b) 3 (c) 1 (d) 5
- If $P(-1, 1)$ is the middle point of the line segment joining $A(-3, b)$ and $B(1, b + 4)$ then the value of b is
(a) 1 (b) -1 (c) 2 (d) 0
- y-axis divides the join of $P(-4, 2)$ and $Q(8, 3)$ in the ratio
(a) $3 : 1$ (b) $1 : 3$ (c) $2 : 1$ (d) $1 : 2$
- The distance of the point $P(4, -3)$ from the origin is
(a) 1 unit (b) 7 units (c) 5 units (d) 3 units
- For what value of x are the points $A(-3, 12)$, $B(7, 6)$ and $C(x, 9)$ collinear?
(a) 1 (b) -1 (c) 2 (d) -2
- The points $(2, 5)$, $(4, -1)$, $(6, -7)$ are vertices of an _____ triangle
(a) isosceles (b) equilateral (c) scalene (d) right angled
- Area of the triangle formed by $(1, -4)$, $(3, -2)$ and $(-3, 16)$ is
(a) 40 sq. units (b) 48 sq. units (c) 24 sq. units (d) none of these
- AOBC is a rectangle whose three vertices are $A(0, 3)$, $O(0, 0)$ and $B(5, 0)$. The length of its diagonal is:
(a) 5 (b) 3 (c) 34 (d) 4
- Point on x – axis has coordinates:
(a) $(a, 0)$ (b) $(0, a)$ (c) $(-a, a)$ (d) $(a, -a)$
- The end points of diameter of circle are $(2, 4)$ and $(-3, -1)$. The radius of the circle is
(a) $5\sqrt{2}/2$ (b) $5\sqrt{2}$ (c) $3\sqrt{2}$ (d) $\pm 5\sqrt{2}/2$
- If the area of the triangle with vertices $(x, 0)$, $(1, 1)$ and $(0, 2)$ is 4 square units, then a value of x is
(a) -2 (b) -4 (c) -6 (d) 8
- The point which divides the line segment joining the points $(7, -6)$ and $(3, 4)$ in ratio 1:2 internally lies in the
(a) I quadrant (b) II quadrant (c) III quadrant (d) IV quadrant

Short Answer Questions:

- If $A(6, -1)$, $B(1, 3)$ and $C(k, 8)$ are three points such that $AB = BC$, find the value of k .
- Determine if the points $(1, 5)$, $(2, 3)$ and $(-2, -11)$ are collinear.
- Find the point on x-axis which is equidistant from $(7, 6)$ and $(-3, 4)$.
- Prove that the points $A(a, a)$, $B(-a, -a)$ and $C(-\sqrt{3}a, \sqrt{3}a)$ are the vertices of an equilateral triangle.
- Find the centre of a circle passing through the points $(6, -6)$, $(3, -7)$ and $(3, 3)$.
- In what ratio does the points $P(2, 5)$ divide the line segment joining $A(8, 2)$ and $B(-6, 9)$.
- Find the lengths of the median of the triangle whose vertices are $(1, -1)$, $(0, 4)$ and $(-5, 3)$.
- The coordinate of the midpoint of the line joining the point $(2p, 4)$ and $(-2, 2q)$ are $(3, p)$. Find the value of p and q .
- AB is a diameter of a circle with centre $C(-1, 6)$. If the coordinates of A are $(-7, 3)$, find the coordinates of B .
- If $A(-5, 7)$, $B(-4, -5)$, $C(-1, -6)$ and $D(4, 5)$ are the vertices of a quadrilateral, find the area of the quadrilateral ABCD.

Long Answer Questions:

1. Prove that the points A(2, -2), B(14, 10), C(11, 13) and D(-1, 1) are vertices of a rectangle. Find the area of this rectangle.
2. Find the coordinates of the centre of a circle passing through the points A(-2, -3), B(-1, 0) and C(7, -6). Also find the radius of this circle.
3. If the points A(6, 1), B(8, 2), C(9, 4) and D(p, 3) are the vertices of a parallelogram, taken in order, find the value of p.
4. If the distance of P(x, y) from A(5, 1) and B(-1, 5) are equal. Prove that $3x = 2y$.
5. The coordinate of the midpoint of the line joining the point (3p, 4) and (-2, 2q) are (5, p). Find the value of p and q.
6. Find the lengths of the median of the triangle whose vertices are (1, -1), (0, 4) and (-5, 3).
7. Find the coordinates of the points of trisection of the line segment joining the points A(2, -2) and B(-7, 4).
8. Find the ratio in which the y-axis divides the line segment joining the points (5, -6) and (-1, -). Also find the point of intersection.
9. If the points A(6, 1), B(8, 2), C(9, 4) and D(p, 3) are the vertices of a parallelogram, taken in order, find the value of p.
10. Find the area of the triangle formed by joining the mid-points of the sides of the triangle whose vertices are (0, -1), (2, 1) and (0, 3). Find the ratio of this area to the area of the given triangle.