

# CHAPTER-7 | Coordinate Geometry

## QUIZ PART-05

1. The point which divides a line segment internally in the ratio  $m_1 : m_2$  is found by:
- Distance Formula
  - Section Formula
  - Mid-point Formula
  - Area Formula (B)

**Explanation:** The section formula is used to find the coordinates of a point dividing a line segment in a given ratio internally.

2. The mid-point of a line segment divides it in the ratio:
- 1 : 2
  - 2 : 1
  - 1 : 1
  - 3 : 1 (C)

**Explanation:** A midpoint always divides a line segment into two equal parts, so the ratio is 1 : 1.

3. The coordinates of the midpoint of A(-5, 10) and B(15, 2) are:
- (-5, -6)
  - (-5, 6)
  - (5, 6)
  - (5, -6) (C)

**Explanation:** Midpoint =  $((-5 + 15)/2, (10 + 2)/2) = (5, 6)$ .

4. The coordinates of the centroid of triangle ABC are obtained by:
- Adding two coordinates only
  - Taking half of each coordinate
  - Taking the average of the three vertices
  - Using distance formula (C)

**Explanation:** The centroid is found by taking the average of the x-coordinates and the average of the y-coordinates of the three vertices.

5. The point that divides the line segment joining (4, -3) and (8, 5) internally in the ratio 3 : 1 is:
- (5, -1)
  - (7, 3)
  - (6, 1)
  - (8, 5) (B)

**Explanation:** Using the section formula, the point is  $((3 \times 8 + 1 \times 4)/4, (3 \times 5 + 1 \times (-3))/4) = (7, 3)$ .

6. The point (-4, 6) divides the line segment joining A(-6, 10) and B(3, -8) in the ratio:
- 1 : 2
  - 2 : 1
  - 3 : 1
  - 1 : 3 (A)

**Explanation:** From the x-coordinate,  $-4 = (3m_2 - 6m_1)/(m_1 + m_2)$ , which gives  $m_1 : m_2 = 1 : 2$ .

7. The points of trisection divide a line segment into:
- Two equal parts
  - Three equal parts
  - Four equal parts
  - Unequal parts (B)

**Explanation:** Trisection means dividing a line segment into three equal parts.

8. If the y-axis divides the line segment joining (5, -6) and (-1, -4), then the x-coordinate of the point of division is:
- 5
  - 1
  - 0
  - 1 (C)

**Explanation:** Any point on the y-axis has x-coordinate equal to 0.

9. If the point  $(3/4, y)$  divides the line segment joining A(-1, 4) and B(6, 5) in the ratio 1 : 3, then  $y =$
- 17/4
  - 5/2
  - 19/4
  - 9/2 (A)

**Explanation:** Using the section formula for the y-coordinate,  $y = (1 \times 5 + 3 \times 4)/(1 + 3) = 17/4$ .

10. The vertices of a parallelogram are A(1, 2), B(4, y), C(x, 6) and D(3, 5). Then (x, y) is:
- (6, 3)
  - (3, 6)
  - (5, 6)
  - (1, 4) (A)

**Explanation:** In a parallelogram, diagonals bisect each other. Midpoint of AC = midpoint of BD gives  $x = 6$  and  $y = 3$ .