

# CHAPTER-7 | Coordinate Geometry

## QUIZ PART-02

1. The distance between the points A(2, 3) and B(4, 1) is:
- 2 units
  - $\sqrt{2}$  units
  - $\sqrt{5}$  units
  - 3 units

**Explanation:** Using the distance formula:  $AB = \sqrt{((4 - 2)^2 + (3 - 1)^2)} = \sqrt{(4 + 4)} = \sqrt{8}$ .

2. The distance between the points (-5, 7) and (-1, 3) is:
- 2 units
  - $\sqrt{16}$  units
  - $\sqrt{41}$  units
  - 6 units

**Explanation:** Distance =  $\sqrt{((-1 - (-5))^2 + (3 - 7)^2)} = \sqrt{(4^2 + (-4)^2)} = \sqrt{(16 + 16)} = \sqrt{32}$ .

3. The distance between the points (a, b) and (-a, -b) is:
- 2a
  - $\sqrt{a^2 + b^2}$
  - $\sqrt{2a^2 + 2b^2}$
  - $2\sqrt{a^2 + b^2}$

**Explanation:** Distance =  $\sqrt{((a - (-a))^2 + (b - (-b))^2)} = \sqrt{(2a)^2 + (2b)^2} = 2\sqrt{a^2 + b^2}$ .

4. The distance between (0, 0) and (36, 15) is:
- 36 km
  - 15 km
  - $\sqrt{36^2 + 15^2}$
  - $\sqrt{15}$  km

**Explanation:** Distance =  $\sqrt{((36 - 0)^2 + (15 - 0)^2)} = \sqrt{36^2 + 15^2} = \sqrt{1296 + 225} = \sqrt{1521} = 39$  km.

5. The distance between the points P(3, 2) and Q(6, 5) is:
- 5 units
  - 3 unit
  - $\sqrt{13}$  units
  - 7 units

**Explanation:** Distance =  $\sqrt{((6 - 3)^2 + (5 - 2)^2)} = \sqrt{(9 + 9)} = \sqrt{18} = 3\sqrt{2}$ .

6. To find the distance between two points, we use the formula:

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

**Explanation:** The correct formula for the distance between two points  $(x_1, y_1)$  and  $(x_2, y_2)$  is  $\sqrt{((x_2 - x_1)^2 + (y_2 - y_1)^2)}$ .

7. The midpoint formula is:
- $((x_1 + x_2)/2, (y_1 + y_2)/2)$
  - $((x_1 - x_2)/2, (y_1 - y_2)/2)$
  - $((x_1 + x_2)/2, (y_1 - y_2)/2)$
  - $(x_1 + x_2, y_1 + y_2)$

**Explanation:** The midpoint is given by the average of the x-coordinates and y-coordinates of the two points.

8. The distance between P(1, 2) and the origin is:
- 1 unit
  - $\sqrt{5}$  units
  - $\sqrt{3}$  units
  - 2 units

**Explanation:** Distance =  $\sqrt{((1 - 0)^2 + (2 - 0)^2)} = \sqrt{(1 + 4)} = \sqrt{5}$ .

9. In a coordinate plane, the distance between any point and the x-axis is equal to:
- The absolute value of the x-coordinate
  - The absolute value of the y-coordinate
  - The sum of the x- and y-coordinates
  - None of these

**Explanation:** The distance from any point to the x-axis is the absolute value of the y-coordinate.

10. The distance between the points (1, 2) and (4, 6) is:
- $\sqrt{10}$
  - 5 units
  - $\sqrt{13}$
  - 6 units

**Explanation:** Distance =  $\sqrt{((4 - 1)^2 + (6 - 2)^2)} = \sqrt{(9 + 16)} = \sqrt{25} = 5$ .