

CHAPTER-7 | Coordinate Geometry

QUIZ PART-06

1. The point which divides the join of $(-1, 7)$ and $(4, -3)$ in the ratio $2 : 3$ is:
- A. $(1, 3)$
B. $(2, 1)$
C. $(3, 2)$
D. $(1, 2)$ (A)

Explanation: Using the section formula, the coordinates are

$$\left(\frac{2 \cdot 4 + 3 \cdot (-1)}{5}, \frac{2 \cdot (-3) + 3 \cdot 7}{5}\right) = (1, 3)$$

2. One point of trisection of the line segment joining $(4, -1)$ and $(-2, -3)$ is:
- A. $(2, -5/3)$
B. $(3, -4/3)$
C. $(1, -2)$
D. $(0, -1)$ (A)

Explanation: The trisection points divide the segment in the ratios $1 : 2$ and $2 : 1$. One such point is $(2, -5/3)$.

3. The other point of trisection of the line segment joining $(4, -1)$ and $(-2, -3)$ is:
- A. $(2, -5/3)$
B. $(0, -7/3)$
C. $(1, -2)$
D. $(-1, -3)$ (B)

Explanation: Using the ratio $2 : 1$, the second trisection point is $(0, -7/3)$.

4. In the Sports Day question, if Niharika posts her green flag on the 2nd line after running $1/4$ of AD, then her flag is at:
- A. $(2, 20)$ B. $(2, 25)$
C. $(4, 25)$ D. $(1, 25)$ (B)

Explanation: The 2nd line gives $x = 2$, and $1/4$ of $AD = 1/4 \times 100 = 25$. So the point is $(2, 25)$.

5. In the Sports Day question, Preet posts her red flag on the 8th line after running $1/5$ of AD. His flag is at:
- A. $(8, 20)$ B. $(8, 25)$
C. $(5, 20)$ D. $(2, 20)$ (A)

Explanation: The 8th line gives $x = 8$, and $1/5$ of $AD = 1/5 \times 100 = 20$. So the point is $(8, 20)$.

6. The distance between the green flag and red flag is:
- A. 5 m
B. 6 m
C. $\sqrt{61}$ m
D. $\sqrt{41}$ m (C)

Explanation: Distance between $(2, 25)$ and $(8, 20)$ is $\sqrt{(8-2)^2 + (20-25)^2} = \sqrt{36+25} = \sqrt{61}$ m.

7. Rashmi should post the blue flag exactly halfway between the two flags at:
- A. $(5, 22.5)$
B. $(4, 20)$
C. $(5, 25)$
D. $(6, 22.5)$ (A)

Explanation: The midpoint of $(2, 25)$ and $(8, 20)$ is $\left(\frac{2+8}{2}, \frac{25+20}{2}\right) = (5, 22.5)$

8. The point $(-1, 6)$ divides the line segment joining $(-3, 10)$ and $(6, -8)$ in the ratio:
- A. $2 : 7$
B. $7 : 2$
C. $1 : 2$
D. $2 : 1$ (A)

Explanation: By section formula, the point divides the segment internally in the ratio $2 : 7$.

9. The x-axis divides the line segment joining $A(1, -5)$ and $B(-4, 5)$ in the ratio:
- A. $1 : 1$ B. $1 : 2$
C. $2 : 1$ D. $3 : 2$ (A)

Explanation: Since the point on the x-axis has $y = 0$, the segment is divided equally, so the ratio is $1 : 1$.

10. The coordinates of the point where the x-axis divides the line segment joining $A(1, -5)$ and $B(-4, 5)$ are:
- A. $(0, 0)$ B. $(-3/2, 0)$
C. $(-2, 0)$ D. $(1, 0)$ (B)

Explanation: Since the ratio is $1 : 1$, the point is the midpoint of A and B, which is

$$\left(\frac{1+(-4)}{2}, \frac{-5+5}{2}\right) = (-3/2, 0)$$