

Class 11 Maths Chapter 12 Introduction to Three-dimensional Geometry MCQs For Practice

1. The point which is equidistant from the four points $O(0, 0, 0)$, $A(a, 0, 0)$, $B(0, b, 0)$ and $C(0, 0, c)$ is

- (a) $(a/3, b/3, c/3)$
- (b) $(a/2, b/2, c/2)$
- (c) $(a/2, 0, 0)$
- (d) $(0, b/2, 0)$

2. The ratio in which the line segment joining the points $(4, 8, 10)$ and $(6, 10, -8)$ is divided by the yz -plane is

- (a) 1:2
- (b) 2:1
- (c) 2:3
- (d) 1:3

3. The length of the perpendicular drawn from the point $P(a, b, c)$ from z -axis is

- (a) $\sqrt{a^2 + b^2}$
- (b) $\sqrt{b^2 + c^2}$
- (c) $\sqrt{a^2 + c^2}$
- (d) $\sqrt{a^2 + b^2 + c^2}$

4. What is the locus of the points for which $y = 0$?

- (a) yz -plane
- (b) xz -plane
- (c) xy -plane
- (d) z -axis and x -axis

5. The coordinates of the foot of the perpendicular drawn from the point $P(3, 4, 5)$ on the yz -plane are

- (a) $(0, 4, 5)$
- (b) $(3, 0, 0)$
- (c) $(3, 0, 5)$
- (d) $(3, 4, 0)$

6. The locus of the point which is equidistant from the points $A(0, 2, 3)$ and $B(2, -2, 1)$ is

- (a) $x + 2y - 2z + 1 = 0$
- (b) $2x + y - 2z + 1 = 0$
- (c) $x - 2y - z + 1 = 0$
- (d) None of these

7. The ratio in which the line segment joining points $(2, 1, 5)$ and $(3, 4, 3)$ is divided by the plane $x + y - z = \frac{1}{2}$ is:

- (a) 7:5
- (b) 5:7
- (c) 2:7
- (d) 7:2

8. The three points A(-2, 3, 5), B(1, 2, 3) and C(7, 0, -1) are

- (a) vertices of an equilateral triangle
- (b) vertices of an isosceles triangle
- (c) collinear
- (d) B is equidistant from A and C

9. The values of a, b, c respectively if the triangle with vertices (a, 1, 3), (-2, b, -5) and (4, 7, c) have centroid at origin

- (a) vertices of an equilateral triangle
- (b) vertices of an isosceles triangle
- (c) collinear
- (d) B is equidistant from A and C

10. The coordinates of a point on y-axis which is at a distance of $5\sqrt{2}$ from the point P(3, -2, 5) are

- (a) (0, 2, 0)
- (b) (0, -6, 0)
- (c) Both a and b
- (d) None point exist

******* ANSWER KEYS*******

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|-----------|-----------|-----------|-----------|------------|
| Q.1 - (b) | Q.2 - (c) | Q.3 - (a) | Q.4 - (b) | Q.5 - (a) |
| Q.6 - (c) | Q.7 - (b) | Q.8 - (c) | Q.9 - (c) | Q.10 - (c) |