



INDIAN SCHOOL AL WADI AL KABIR

DEPARTMENT OF MATHEMATICS 2020 – 2021

Work Sheet - 3D – Class XI

- If the point $P(x, y, z)$ lies in the fifth octant, then
(a) $x < 0, y < 0, z > 0$ (b) $x > 0, y > 0, z < 0$
(c) $x < 0, y < 0, z < 0$ (d) $x > 0, y < 0, z < 0$
- The points $A(-2, 6, -2)$, $B(0, 4, -1)$, $C(-2, 3, 1)$ and $D(-4, 5, 0)$ form the vertices of a
(a) a rectangle (b) a square
(c) parallelogram (d) a rhombus
- The midpoint of the line segment joining $(3, -3, -3)$ and $(0, 3, 3)$ lies on
(a) z -axis (b) y -axis (c) x -axis (d) XY plane
- The points $(-5, 2, 5)$, $(-6, 1, 1)$ and $(-9, 4, 1)$ form the vertices of a triangle which is
(a) Right angled and isosceles (b) Right angled but not isosceles
(c) Isosceles but not right angled (d) Equilateral
- The distance of the point $(4, -2, 3)$ from y -axis is
(a) $\sqrt{29}$ (b) $\sqrt{20}$ (c) $\sqrt{25}$ (d) $\sqrt{13}$
- The points $A(3, -3, 2)$, $B(-1, 8, 7)$ and $C(1, 1, -3)$ are the vertices of a triangle. The distance of its centroid from origin is
(a) 0 (b) 4 (c) 5 (d) 3
- The coordinates of the fourth vertex of a parallelogram whose other three vertices are $(-1, -6, -3)$, $(2, -5, 4)$ and $(7, 2, 8)$ is
(a) $\left(3, -2, \frac{5}{2}\right)$ (b) $\left(1, -\frac{3}{2}, 2\right)$ (c) $(4, 1, 1)$ (d) $(4, -1, 1)$
- $(1, -1, 2)$ is the midpoint of the line segment joining $(3, 4, 0)$ and (a, b, c) , then a, b, c are
(a) 1, 6, 4 (b) -1, -6, 4 (c) -1, -6, -4 (d) 1, -6, -4

9. If the distance of the points $(a, 0, 1)$ and $(0, 1, 2)$ is $\sqrt{27}$, then the value of a is
 (a) -5 (b) ± 5 (c) 5 (d) ± 3
10. The distance of the point $(2, 3, 4)$ from origin $(0, 0, 0)$ is
 (a) $\sqrt{29}$ (b) $\sqrt{13}$ (c) 5 (d) $\sqrt{20}$
11. The distance of the point $P(12, 9, 2)$ from z -axis is
 (a) 12 (b) $\sqrt{85}$ (c) $\sqrt{229}$ (d) 15
12. The points $(2, -3, 1)$, $(7, -6, 3)$ and $(-3, 3, 2)$ are the midpoints of the sides of a triangle. Then the coordinates of the centroid of the triangle is
 (a) $(2, 2, 2)$ (b) $(-2, 2, 2)$ (c) $(2, -2, 2)$ (d) $(2, 2, -2)$
13. The perimeter of the triangle whose vertices are $(1, 0, 1)$, $(3, -2, 2)$ and $(0, 2, 2)$
 (a) $8 + \sqrt{6}$ (b) 12 (c) $8 + \sqrt{2}$ (d) $5 + \sqrt{6}$
14. Find the distance of the points $(-2, 4, 1)$ and $(1, 2, 5)$.
15. Two vertices of a triangle are $(2, -6, 4)$ and $(4, -2, 3)$ and its centroid is $\left(\frac{8}{3}, -1, 3\right)$ Find the third vertex.
16. A point is on the y -axis. What are the x -coordinate and z -coordinate?
17. Name the octant in which the point $(7, -1, 5)$ lie?
18. A point lies in the YZ plane. What can you say about its x -coordinate?

Answers

| | |
|----|---|
| 1. | B |
| 2. | B |
| 3. | C |
| 4. | A |
| 5. | C |

| | |
|-----|---|
| 6. | D |
| 7. | C |
| 8. | B |
| 9. | B |
| 10. | A |

| | |
|-----|-------------|
| 11. | D |
| 12. | C |
| 13. | A |
| 14. | $\sqrt{29}$ |
| 15. | $(2, 5, 2)$ |

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|-----|----------------|
| 16. | $x = 0, z = 0$ |
| 17. | 4 |
| 18. | 0 |
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