MATHS

BOOKS - S CHAND MATHS (ENGLISH)

INTRODUCTION TO THREE DIMENSIONAL GEOMETRY

Example

1. The coordinates of the point which is equidistant from the points O(0,0,0) A (a,0,0),

B(0,b,0) and C(0,0,c)

A. (a,b,c)

B. $\left(\frac{a}{2}, \frac{b}{2}, \frac{c}{2}\right)$

C. $\left(\frac{a}{3}, \frac{b}{3}, \frac{c}{3}\right)$

D. $\left(-\frac{a}{2}, -\frac{b}{2}, -\frac{c}{2}\right)$

Answer: B

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2. The ratio in which the line segment joining the points An(-2,3,6) and B(3,4,-1) is divide by the plane $2x + 3y - z = 3$ is

A. 1 : 4

B. 3 : 4

C. 4 : 1

D. 4 : 3

Answer: A

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Multiple Choice Questions

1. The point on x - axis which is equidistant from the points (3,2,2) and (5,5,4) is

A. $\left(\frac{49}{4}, 0, 0\right)$

B. $\left(\frac{23}{2}, 0, 0\right)$

C. $\left(-\frac{49}{4}, 0, 0\right)$

D. (2,0,0)

Answer: A

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2. The points on z-axis which are at a distance of 6 units from the point (-4,2,-1) are

A. $(0, 0, \pm 5)$

B. $(0, 0, \pm 3)$

C. (0,0,3), (0,0,-5)

D. (0,0,-3), (0,0,5)

Answer: C

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3. Three consecutive vertices of a parallelogram ABCD are A(3,-1,2) B, (1,2,-4) and C(-1,1,2), the fourth vertex D is

A. (-1,2,8)

B. (1,-2,8)

C. (1,2,8)

D. (1,2,-8)

Answer: B

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4. A point R with x - coordinate 4 lies on the line segment joining the points P(2,-3,4) and Q(8, 0, 10) . The coordinates of R are

A. (4, -2, 6)

B. (-4,-2,6)

C. (-4,2,6)

D. (4,2,6)

Answer: A

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5. If origin is the centroid of a triangle ABC having vertices A(a,1,3), B(-2,b,-5) and C(4,7, c) , then the values of a, b, c are

A. a = - 2, b = 8 , c = 2

B. a = 2, b = 8, c = - 2

C. a = 2, b = - 8, c = 2

D. a = - 2, b = - 8, c = 2

Answer: D

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6. The ratio in which the line segment joining the point A (4, 8, 10) and B (6, 10,- 8) is divided by yz - plane is

A. 2 : 3 internally

B. 2 : 3 externally

C. 3 : 2 internally

D. 3 : 2 externally

Answer: B

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7. x-axis is the intersection of two planes

A. xy and yz

B. yz and zx

C. second octant

D. eiththh octant

Answer: C

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8. The point (-2,-3,-4) lies in the

A. first octant

B. seventh octant

C. second octant

D. eighth octant

Answer: B

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9. If a parallelopiped is formed by planes drawn through the points (5, 8, 10) and (3, 6, 8) parallel to the coordinate planes, then the length of diagonal of the parallelopiped is

A. $2\sqrt{3}$

B. $3\sqrt{2}$

C. $\sqrt{2}$

D. $\sqrt{3}$

Answer: A

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10. The locus of a point for which $y = 0, x = 0$ is

A. equation of x-axis

B. equation of y-axis

C. equaiton of z-axis

D. none of these

Answer: C

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11. The locus of a point for which $x = 0$ is

A. xy plane

B. yz plane

C. zx plane

D. none of these

Answer: B

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12. What is the length of perpendicular drawn from the point P(3,4,5) on y-axis

A. $\sqrt{41}$ units

B. $\sqrt{34}$ plane

C. 5 units

D. none of these

Answer: B

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13. The distance of the point P(-3,4,5) from yz plant is

A. 3 units

B. 4 units

C. 5 units

D. none of these

Answer: A

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14. L is the foot of perpendicular drawn from a point P(3,4,5) ont he xy-plane. The coordinates of point L are

A. (3,0,0)

B. (0,4,5)

C. (3,0,5)

D. (3,4,0)

Answer: D

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15. L is the foot of perpendicular drawn from a point P(3,4,5) on x-axis. The coordinates of L are

A. (3,0,0)

B. (0,4,0)

C. (0,0,5)

D. (0, 4, 5)

Answer: A

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16. If the end points of the diagonal of a square are (-2,3,1) and (-3,5,2) , then the length of the side of the square is

A. $\sqrt{2}$ units

B. $\sqrt{3}$ units

C. $\sqrt{6}$ units

D. $2\sqrt{3}$ units

Answer: B

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17. If (1,-2,5) and (-3,-4, 9) are the end points of a diameter of a sphere, then the radius of the sphere is

A. 6 units

B. 4 units

C. 3 units

D. 2 untis

Answer: C

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