





NCERT - NCERT MATHEMATICS(TELUGU)

INTRODUCTION TO THREE DIMENSIONAL GEOMETRY

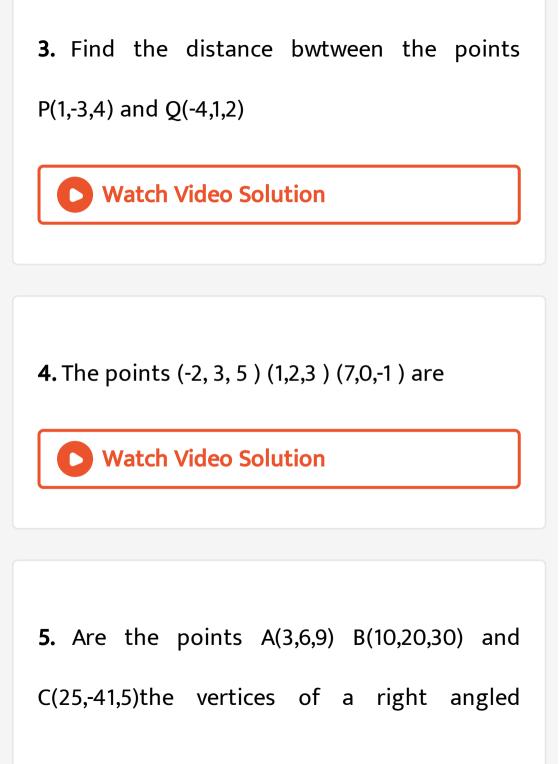


- 1. Express each of the following decimals in the
- $\frac{p}{q}$ form
- 99.12



2. Find the octant in which the poits (-3,1,2) and (-3,1,-2) lie





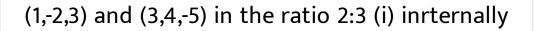


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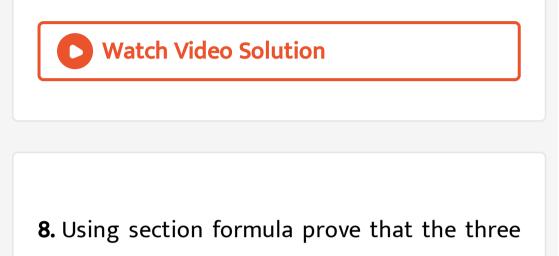
6. Find the equation of set of points P such that $PA^2 + PB^2 = 2k^2$ where A and B are the points (3,4,5) and (-1,3,-7) respectively

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7. Find the coordinates of the point which divides the line segement joining the points



and (ii) externally



points (-4,6,10) ,(2,4,6) and (14,0,-2) are collinear

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9. Find the coordinates of the centroid fof the

triangle

whose

vertices

are

 $(x_1,y_1,z_1),\,(x_2,y_2,z_2)$ and (x_3,y_3,z_3)



10. Find the ratio in which the line segement joining the points (4,8,10) and (6,10,-10) is divided by the YZ plane

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11. Find the equation of the set of the point P such that its distances from the points

A(3,4,-5) and B(-2,1,4) are equal



12. The centroid of a triangle ABC is at the point (1,1,1) if the coordinates of A and B are (3,-5,7) and (-1,7,-6) respectively find the coordinates of the point C



Exercise 12 1

1. A point is on the x axis what are its y

coordinates and z coordinates

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2. A point is in the XZ plane what can you say

about its y coordinate

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3. Name the octants in which the following points lie (1,2,3),(4,-2,3),(4,-2,-5),(4,2,-5),(-4,2,-5),(-4,2,5),

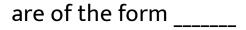
(-3,-1,6) (-2,-4,-7)

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4. Fill in the blanks

(i) The x axis and y axis taken togetherdetermine a plane known as _____

(ii) The coordinates of points in the XY plane



(iii) Coordinate planes divide the space into

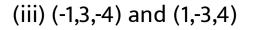
_octants

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Exercise 12 2

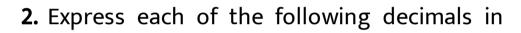
Find the distance between the following pairs of points
(i) (2,3,5) and (4,3,1)

(ii) (-3,7,2) and (2,4,-1)



(2,-1,3) and (-2,1,3)





the
$$\frac{p}{q}$$
 form 102.2



3. Find the equation of the set of points which are equidistant from the points (1,2,3) and (3,2,-1)



4. Find the equation of the set of points P the sum of whose distances from A(4,0,0) and (-4,0,0) is equal to 10

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1. Find the coordinates of the point which divides the line segement joining the points (-2,3,5) and (1,-4,6) in the ratio (i) 2:3 internally , (ii) 2:3 externally

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2. Given that P(3,2,-4) Q(5,4-6) and R(9,8,-10) are

collinear find the ratio in which Q divides PR

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3. Find the ratio in which the YZ plane divides the line segement formed by joining the points (-2,4,7) and (3,-5,8)

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4. Find the coordinates of the points which trisect the line segement joining the points P(4,2,-6) and Q(10,-16,6)

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Miscellaneous Exercise

- **1.** Three vertics of a parallelogram ABCD are
- A(3,-1,2) ,B (1,2,-4) and C(-1,1,2) find the
- coordinate of the fourth vertex

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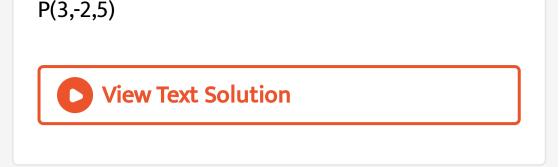
2. Find the lengths of the medians of the triangle with vertices A(0,0,6) ,B(0,4,0) and



3. If the origin is the centroid of the triangle PQR with vertices P(2a,2,6) Q(-4,3b,-10) and R(8,14,2c) then find the values of a ,b and c

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4. Find the coordinates of a point on y axis which are at a distance of $5\sqrt{2}$ from the point



5. A point R with X coordinate 4 lie on the line segment joining the points P(2,-3,4) and Q(8,0,10) find the coordinates of the pont R

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6. If A and B be the points (3,4,5) and (-1,3,-7) respectively find the equation of the set of

points P such that $PA^2 + PB^2 = K^2$ where k

is a constant

