

CHAPTER 12

THREE DIMENSIONAL GEOMETRY

Portions to be studied.

- Coordinates of a points in space
- Distance between two points

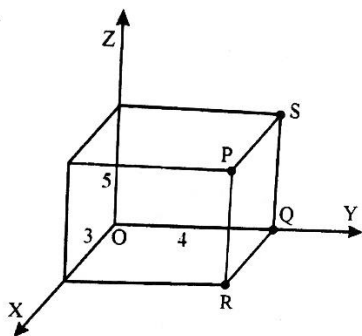
Deleted Portion: Section Formula, Centroid of a Triangle

DECEMBER 2020

No questions based on Focus Area

MARCH 2020

1. Consider the following figure.



- a) Find the distance PQ. (1)

IMPROVEMENT 2019

Not in the Focus Area

MARCH 2019

2. Let  $A(0, 7, 10)$ ,  $B(-1, 6, 6)$  and  $C(-4, 9, 6)$  are the vertices of a triangle.
  - a) Show that it is a right triangle. (3)
  - b) Not in the Focus Area

IMPROVEMENT 2018

Not in the Focus Area

**MARCH 2018**

3. Consider a point  $A(4,8,10)$  in space.
- Find the distance of the point A from XY- plane. (1)
  - Find the distance of the point A from X-axis. (1)
  - Not in the Focus Area**

**IMPROVEMENT 2017**

7. a) Co-ordinates of a point on XY plane is .....
- $(1,2,0)$
  - $(2,-3,-1)$
  - $(0,3,1)$
  - $(4,0,1)$
- b) **Not in the Focus Area**

**MARCH 2017**

8. a) The distance between the point  $(1,-2,3)$  and  $(4,1,2)$  is .....
- $\sqrt{12}$
  - $\sqrt{19}$
  - $\sqrt{11}$
  - $\sqrt{15}$
- b) **Not in the Focus Area**

**IMPROVEMENT 2016**

9. a) State whether the following is TRUE or FALSE.  
 "The point  $(4,-2,-5)$  lies in the eight octant". (1)
- b) Find the equation of the set of points such that its distance from the points  $A(3,4,-5)$  and  $B(-2,1,4)$  are equal. (3)

**MARCH 2016**

10. a) Which one of the following points lies in the sixth octant?
- $(-4, 2, -5)$
  - $(-4, -2, -5)$
  - $(4, -2, -5)$
  - $(4, 2, 5)$
- b) **Not in the Focus Area**

**IMPROVEMENT 2015**

11. a) Which of the following is lies in the sixth octant? (1)
- $(-3,-1,-2)$
  - $(-3,1,-2)$
  - $(3,-1,2)$
  - $(3,-1,-2)$
- b) **Not in the Focus Area**

**MARCH 2015**

12. a) A point in the XZ plane is ..... (1)  
 i) (1,1,1)                      ii) (2,0,3)                      iii) (2,3,0)                      iv) (-1,2,3)
- b) Show that the points  $A(1, 2, 3)$ ,  $B(-1, -2, -1)$ ,  $C(2, 3, 2)$  and  $D(4, 7, 6)$  are the vertices of a parallelogram. (3)

**IMPROVEMENT 2014**

13. **Not in the Focus Area**

**MARCH 2014**

14. a) Find the distance between the points (2,3,5) and (4,3,1). (2)  
 b) **Not in the Focus Area.**

**IMPROVEMENT 2013**

15. a) If P is a point in YZ-plane, then its x coordinate is .....  
 b) **Not in the Focus Area**

**MARCH 2013**

16. a) Find the distance between the points (2,-1,3) and (-2,1,3).  
 b) **Not in the Focus Area**

**IMPROVEMENT 2012**

17. Given three points  $A(-4, 6, 10)$ ,  $B(2, 4, 6)$  and  $C(14, 0, -2)$ .  
 a) Find AB (1)  
 b) Prove that the points are collinear. (3)

**MARCH 2012**

18. **Not in the Focus Area**

**IMPROVEMENT 2011**

19. a) Determine a point on the x axis which is equidistant from the points  $(-2, 3, 5)$  and  $(1, 2, 3)$ . (2)  
 b) **Not in the Focus Area**

**MARCH 2011**

20. Consider the points  $A(-2, 3, 5)$ ,  $B(1, 2, 3)$  and  $C(7, 0, -1)$ .

- a) Using the distance formula. Show that the points A, B and C are collinear. (2)
- b) **Not in the Focus Area**

**SEPTEMBER 2010**

21. a) **Not in the Focus Area**
- b) Find the locus of the set of points P such that the distance from A(2,3,4) is equal to twice the distance from B(-2,1,2). (2)

**MARCH 2010**

22. Consider the triangle with vertices A (0,7,-10), B(1,6,-6) , C(4,9,-6).
- i) Find the sides AB, BC, AC (2)
- ii) Prove that the triangle is right angled. (1)
- iii) **Not in the Focus Area**

**IMPROVEMENT 2009**

23. **Not in the Focus Area**

**MARCH 2009**

24. **Not in the Focus Area**

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