MATHS

BOOKS - NCERT MATHS (ENGLISH)

COORDINATE GEOMETRY

Exercise 7 1 Multiple Choice Questions Mcqs

1. The distance of the point P(2,3) from the X-axis is

A. 2

B. 3

C. 1

D. 5

Answer: B

 Watch Video Solution

2. The distance between the points A(0,6) and B(0,-2) is

A. 6

B. 8

C. 4

D. 2

Answer: B

 Watch Video Solution

3. The distance of the point P(-6,8) from the origin is

A. 8

B. $2\sqrt{7}$

C. 10

D. 6

Answer: C

Watch Video Solution

4. The distance between the points (0,5) and (-5,0) is

A. 5

B. $5\sqrt{2}$

C. $2\sqrt{5}$

D. 10

Answer: B

Watch Video Solution

5. If AOBC is a rectangle whose three vertices are A(0,3),O(0,0) and B(5,0), then the length of its diagonal is

A. 5

B. 3

C. $\sqrt{34}$

D. 4

Answer: c

Watch Video Solution

6. The perimeter of a triangle with vertices (0,4),(0,0) and (3,0) is

A. 5

B. 12

C. 11

D. $7+\sqrt{5}$

Answer: B

Watch Video Solution

7. The area of a triangle with vertices A(3,0),B(7,0) and C(8,4) is

A. 14

B. 28

C. 8

D. 6

Answer: c

 Watch Video Solution

8. The points (-4,0),(4,0) and (0,3) are the verticess of a

A. right angled triangle

B. isosceles triangle

C. equilateral triangle

D. scealene triangle

Answer: B

Watch Video Solution

9. The point which divides the line segment joining the points (7,-6) and (3,4) in ration $1:2$ internally lies in the

A. I quadrant

B. II quadrant

C. III quadrant

D. Iv quadrant

Answer: D

Watch Video Solution

10. The point which lies on the perpendicular bisector of the line segment joining the points A(-2,-5) and B (2,5) is

A. (0,0)

B. (0,2)

C. (2,0)

D. (-2,0)

Answer: A

Watch Video Solution

11. The fourth vertex D of a parallelogram ABCD whose three vertices are A (-2,3), B (6,7) and C (8,3) is

A. (0,1)

B. (0,-1)

C. (-1,0)

D. (1,0)

Answer: b

Watch Video Solution

12. If the point P(2,1)lies on the line segment joining points A(4,2)and B(8,4), then

A. AP $= \frac{1}{3}AB$

B. $AP = PB$

C. PB $= \frac{1}{3}AB$

D. $AP = \frac{1}{2}AB$

Answer: D

Watch Video Solution

13. If P $\left(\frac{a}{3}, 4\right)$ is the mid - point of the line segment joining the points Q(-6,5) and R(-2,3), then the value of a is

A. -4

B. -12

C. 12

D. -6

Answer: B

 Watch Video Solution

14. The perpendicular bisector of the line segment joining the points A(1,5) and B(4,6) cuts the Y-axis at

A. (0,13)

B. (0,-13)

C. (0,12)

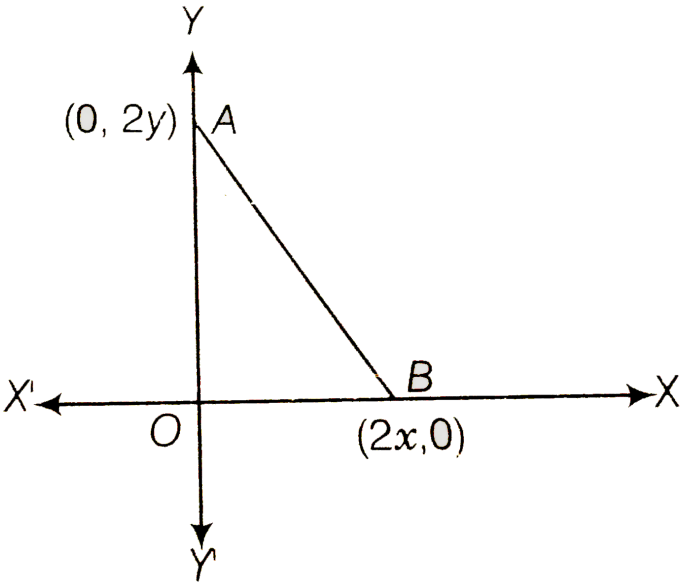
D. (13,0)

Answer: a

 Watch Video Solution

15. The coordinates of the point which is equidistant from the three vertices of the

$\triangle AOB$ as shown in the figure is



A. (x, y)

B. (y, x)

C. $\left(\frac{x}{2}, \frac{y}{2}\right)$

D. $\left(\frac{y}{2}, \frac{x}{2}\right)$

Answer: A

Watch Video Solution

16. If a circle drawn with origin as the centre passes through $\left(\frac{13}{2}, 0\right)$, then the point which does not lie in the interior of the circle is

A. $\left(\frac{-3}{4}, 1\right)$

B. $\left(2, \frac{7}{3}\right)$

C. $\left(5, \frac{-1}{2}\right)$

D. $\left(-6, \frac{5}{2} \right)$

Answer: d

Watch Video Solution

17. A line intersects the Y- axis and X-axis at the points P and Q, respectively. If (2,-5) is the mid-point of PQ, then the coordinates of P and Q are, respectively.

A. (0,-5) and (2,0)

B. (0,10) and (-4,0)

C. (0,4) and (-10, 0)

D. (0,-10) and (4,0)

Answer: D

Watch Video Solution

18. The area of a triangle with vertices (a,b+c), (b,c+a) and (c,a+b) is

A. $(a+b+c)^2$

B. 0

C. (a + b + c)

D. abc

Answer: b

Watch Video Solution

19. If the distance between the points (4,p) and (1,0) is 5 , then the value of p is

A. 4 only

B. ± 4

C. $-4 only$

D. 0

Answer: B

 Watch Video Solution

20. If the points A(1,2) , B(0,0) and C (a,b) are collinear , then

A. a=b

B. $a=2b$

C. $2a=b$

D. $a=-b$

Answer: c

Watch Video Solution

Exercise 7 2 Very Short Answer Type Questions

1. State whether the following statements are true or false. Justify your answer

△ ABC with vertices A (-2,0),B (2,0) and C (0,2) is similar to △ DEF with vertices D (-4,0) ,E (4,0) and F (0,4).

Watch Video Solution

2. The point P(-4,2) lies on the line segment joining the points A(-4,6) and B (-4,-6).

Watch Video Solution

3. The points (0,5) , (0,-9) and (3,6) are collinear.

Watch Video Solution

4. Point P(0,2) is the point of intersection of Y-axis and perpendicular bisector of line segment joining the points A(-1,1) and B(3,3).

Watch Video Solution

5. The points A(3,1) , B (12,-2) and C(0,2) cannot be vertices of a triangle.

Watch Video Solution

6. State whether the following statements are true or false. Justify your answer:

The points A(4,3), B(6,4), C(5,-6) and D(-3,5) are vertices of a parallelogram.

Watch Video Solution

7. A circle has its centre at the origin and a point P (5,0) lies on it . The point Q (6,8) lies outside the circle.

Watch Video Solution

8. The point A (2,7) lies on the perpendicular bisector of the line segment joining the points P (5,-3) and Q(0,-4).

 Watch Video Solution

9. The point P (5,-3) is one of the two points of trisection of line segment joining the points A(7,-2) and B(1,-5).

 Watch Video Solution

10. State whether the following statements are true or false. Justify your answer:

The points A (-6,10), B(-4,6) and C(3,-8) are collinear such that

$AB = \frac{2}{9}AC.$

Watch Video Solution

11. The points P (-2,4) lies on a circle of radius 6 and centre (3,5).

Watch Video Solution

12. The points A (-1,-2), B (4,3) ,C (2,5) and D (-3,0) in that order form a rectangle.

Watch Video Solution

Exercise 7 3 Very Short Answer Type Questions

1. Name the type of triangle formed by the points A (-5,6) , B (-4,-2) and C (7,5).

Watch Video Solution

2. Find the points on the X-axis which are at distance of $2\sqrt{5}$ from the point (7,-4) . How many such points are there ?

Watch Video Solution

3. What type of quadrilateral do the points A (2,-2), B (7,3) C(11,-1) and D (6,-6) taken in that order from?

Watch Video Solution

4. Find the value of a , if the distance between the points A (-3,-14) and B (a,-5) is 9 units.

Watch Video Solution

5. Find a point which is equidistant from the points A(-5,4) and B (-1,6). How many such points are there ?

Watch Video Solution

6. Find the coordinates of the point Q on the X- axis which lies on the perpendicular bisector of the line segment joining the points A (-5,-2) and B (4,-2). Name the type of triangle formed by the points Q , A and B.

Watch Video Solution

7. Find the value of m, if the points (5,1), (-2,-3) and (8,2m) are collinear.

Watch Video Solution

8. If the points A(2,-4) is equidistant from P (3,8) and Q (-10,y), then find the value of y . Also , find distance PQ.

Watch Video Solution

9. Find the area of the triangle wohose vertices are (-8,4) ,(-6,6) and (-3,9).

Watch Video Solution

10. In what ratio does the X -axis divide the line segment joining the points (-4,-6) and (-1,7) ? Find the coordinates of the points of division.

Watch Video Solution

11. Find the ratio in which the point P $\left(\frac{3}{4}, \frac{3}{12}\right)$ divides the line segment joining the points A $\left(\frac{1}{2}, \frac{3}{2}\right)$ and B (2,-5).

Watch Video Solution

12. If P (9a-2,-b) divides line segment joining A (3a+1,-3) and B(8a,5) in the ratio $3:1$, then find the values of a and b.

Watch Video Solution

13. If (a,b) is the mid - point of the line segment joining the points A (10,-6), B(k,4) and a-2b =18, then find the value of k and the distance AB.

Watch Video Solution

14. If the centre of a circle is (2a,a-7) ,then Find the value of a , if the circle passes through the point (11,-9) and has diameter $10\sqrt{2}$ units .

Watch Video Solution

15. The line segment joining the points A(3,2) and B (5,1) is divided at the point P in the ratio $1:2$ and it lies on the line $3x-18y+k=0$. Find the value of k.

Watch Video Solution

16. If D $\left(-\frac{1}{2}, \frac{5}{2}\right)$, E (7,3) and F $\left(\frac{7}{2}, \frac{7}{2}\right)$ are the mid - points of sides of $\triangle ABC$, then find the area of the $\triangle ABC$.

Watch Video Solution

17. If the points A (2,9), B (a,5) and C (5,5) are the vertices of a $\triangle ABC$. Right-angled at B, then find the values of a and hence the area of $\triangle ABC$.

Watch Video Solution

18. Find the coordinates of the point R on the line segment joining the points P(-1,3) and Q (2,5) such that PR $= \frac{3}{5}$ PQ.

Watch Video Solution

19. Find the values of k, if the points A (k+1,2k) ,B (3k,2k+3) and C (5k-1,5k) are collinear.

Watch Video Solution

20. Find the ratio in which the line $2x + 3y - 5 = 0$ divides the line segment joining the points (8,-9) and (2,1). Also find the coordinates of the points of division.

Watch Video Solution

Exercise 7 4 Long Answer Type Questions

1. If (-4,3) and (4,3) are two vertices of an equilateral triangle, then find the coordinates

of the third vertex, given that the origin lies in the interior of the triangle.

Watch Video Solution

2. A(6,1) , B (8,2) and C (9,4) are three vertices of a parallelogram ABCD . If E is the mid - point of DC , then find the area of $\triangle$ ADE.

Watch Video Solution

3. The points A $(x_1, y_1), B(x_2, y_2)$ and $C(x_3, y_3)$ are the vertices of $\triangle$ ABC.

(i) The median from A Meets Bc at D. Find the coordinates of the points D.

(ii) Find the coordinates of the point P on Ad such that $AP : PD = 2 : 1$.

(iii) Find the coordinates of points Q and R on medians BE and CF, respectively such that $BQ : QE = 2 : 1$ and $CR : RF = 2 : 1$.

What are the coordinates of the centroid of the $\triangle$ ABC?

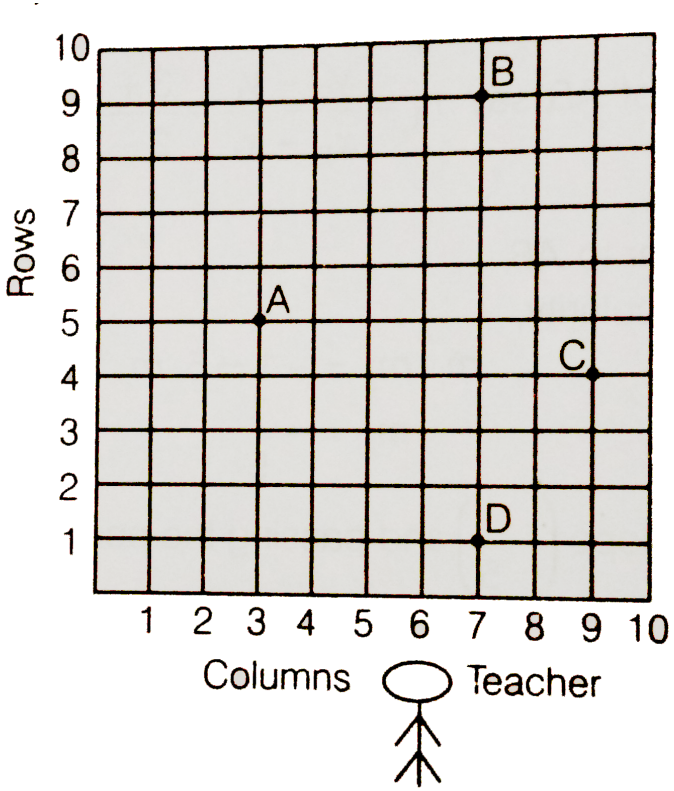
Watch Video Solution

4. If the points A (1,-2), B (2,3) , C (a,2) and D (-4-,3) form a parallelogram , them find the value of a and height of the parallelogram taking AB as base.

Watch Video Solution

5. Students of a school are standing in rows and columns in their playground for a drill

practice . A, B, C and D are the positions of four students as shown in figure . Is it possible to place Jaspal inn the drill in such a way that he is equidistant from each of the four students A, B C and D ? If so, what should be his position ?



Watch Video Solution

6. Ayush starts walking from his house to office . Instead of going to the office directly , he goes to bank first , from there to his daughter 's school and then reaches the office. What is the extra distance travelled by Ayush in reaching his office ? (Assume that all distance covered are in straight lines). If the house is situated at (2,4) bank at (5,8), school at (13,14) and office at (13,26) and coordinates are in km.

Watch Video Solution