MATHS

BOOKS - VGS BRILLIANT MATHS (TELUGU ENGLISH)

COORDINATE GEOMETRY

Example

1. What is the distance between A (4 , 0) and B (8 , 0) ?

2. A and B are two points given by (8 , 3) , (- 4, 3) . Find the distance between A and B .

3. Find the distance between two points A (4 , 3) and B (8 , 6) . (AS_1)

4. Show that the points A = (4 , 2) , B (7 , 5) and C (9 , 7) are collinear.

5. Are the points (3 , 2) , (- 2 , - 3) and (2 , 3) form a triangle ? (AS_2)

6. Show that the points (1 , 7) , (4 , 2) , (- 1 , -1) and (- 4 , 4) are vertices of a square . (AS_2)

7. Figure shows the arrangement of desks in a classroom. Madhuri, Meena , Pallavi are seated at A (3 , 1) , B (6 , 4) and C (8 , 6) respectively. Do you think they are seated in a line ? Give

reasons for your . (AS_2)
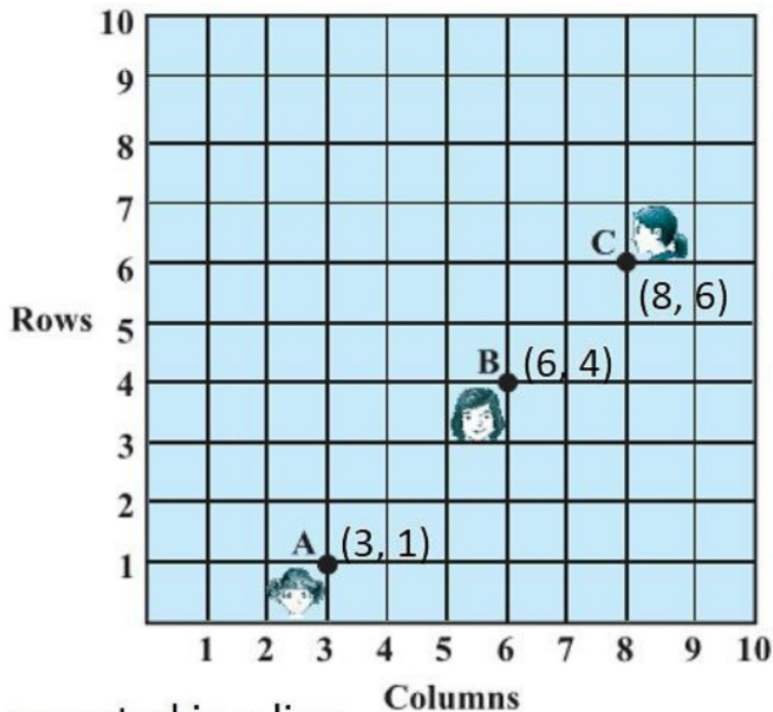
8. Find the relation between x and y such that point (x , y) is equidistant from the points (7 ,

1) and (3 , 5) .

9. Find the coordinates of the point which divides the line segment join- lng the points (4 , - 3) and (8 , 5) in the ratio 3 : 1 internally . (AS_1)

10. Find the midpoint of the line segment joining the points (3 ,0) and (- 1 , 4) . (AS_1)

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11. Find the centroid of the triangle whose vertices are (3 , - 5) , (- 7 , 4) , (10 , - 2) respectively . (AS_1)

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12. In what ratio does the point (- 4 , 6) divide the line segment joining the points A (- 6 , 10) and B (3 , - 8) ? (AS_1)

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13. Find the coordinates of the points of trisection of the line segment joining the points A(2 , -2) and B(- 7 , 4) . (AS_1)

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14. Find the ratio in which the Y - axis divides the line segment joining the points (5 , -6) and (- 1 , - 4) . Also find the point of intersection (AS_1)

15. Show that the points A(7 , 3) , B (6 , 1) , C (8 , 2) and D (9 , 4) taken in that order are vertices of a parallelogram . (AS_2)

16. If the points A (6 , 1) , B (8 , 2) , C (9 , 4) and D (p, 3) are the vertices of a par -allelogram , taken in order , find the value of P.

17. Find the area of a triangle whose vertices are (1 , -1) , (- 4 , 6) and (- 3 , -5) . (AS_1)

18. Find the area of a triangle formed by the points A(5 , 2) , B (4 , 7) and C (7 , -4) . (AS_1)

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19. If A (- 5 , 7) , B(- 4 , - 5) , C(- 1 , - 6) and D (4 , 5) are the vertices of a quadrilat-eral, then find the area of a quadri-lateral ABCD .

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20. The points (3 , - 2) , (- 2 , 8) and (0 ,4) are three points in a plane . Show that these points are collinear . (AS_2)

21. Find the value of 'b' for which the points are collinear . (AS_1)

A (1 , 2) , B (- 1 , b) and C (- 3 , -4)

22. The end points of a line segment are (2 , 3) , (4 , 5) . Find the slope of the line

23. Determine x so that 2 is the slope of the line through P (2 , 5) and Q (x , 3) . (AS_1)

Do These

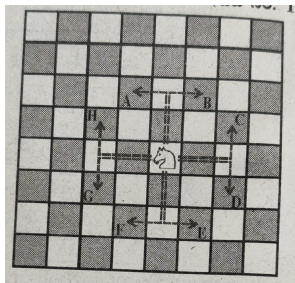**1.** From the figure write coordinates of the point A , B , C , D , E , F , G , H , (AS_5)
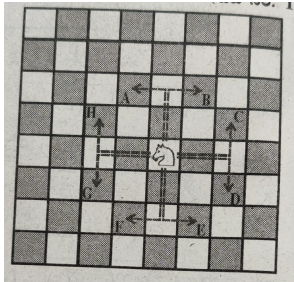
2. Find the distance covered by the knight in eanch of its 8 moves i.e., find the distance of A ,

B , C , D , E , F , G and H from the origin. (AS_5)

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3. What is the distance between two points H and C ?And find the distance between two points A and B (AS_1)
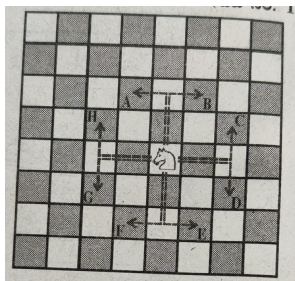
4. Where do these following points lie (- 4 , 0) , (2 , 0) , (6 , 0) , (- 8,0) on coordi- nate plane ? (AS_3)

5. What is the distance between points (- 4 , 0) and (6 , 0) on coordinate plane ?

6. Find the distance between the following pairs of points : (AS_1)

(3 , 8) , (6 , 8)

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7. Find the distance between the following pairs of points : (AS_1)

(- 4 , - 3) , (- 8 , - 3) .

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8. Find the distance between the following pairs of points :

(3 , 4) , (3 , 8) .

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9. Find the distance between the following pairs of points :

(- 5 , - 8) , (- 5 , - 12) .

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10. Find the distance between the following points .

A = (2 , 0) and B (0 , 4) (AS_1)

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11. Find the distance between the following points .

P (0 , 5) and Q (12 , 0) .

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12. Find the distance between the following pair of points .

$(7 , 8)$ and $(- 2 , 3)$

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13. Find the distnace between the following pair of poitns .

$(- 8 , 6)$ and $(2 , 0)$

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14. Find the point which divides the line segment joining the points (3 , 5) and (8 , 10) internallly in the ratio 2 : 3 . (AS_1)

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15. Find the midpoint of the line segment joining the points (2 , 7) and (12 , - 7) . (AS_1)

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16. Find the centroid of the triangle whose vertices are (- 4 , 6) , (2 , - 2) and (2 , 5) respectively . (AS_1)

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17. Find the trisectional points of line joining(2 , 6) and (- 4 , 8) . (AS_1)

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18. Find the trisectional points of line joining (

- 3 , -5) and (- 6 , - 8) . (AS_1)

19. Find the area of the triangle whose vertices

are (AS_1)

(- 5 , -1), (3 , -5) , (5 , 2)

20. Find the area of the triangle whose vertices are

(6 , -6) , (3 , - 7) and (3 , 3) .

21. Verify whether the following points are collinear or not .

(1 , - 1) , (4 , 1) , (- 2 , -3) . (AS_2)

22. Verify whether the following points are collinear or not .

(1 , -1) , (2 , 3) , (2 , 0)

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23. Verify whether the following points are collinear or not .

(1 , -6) , (3 , -4) , (4 , - 3) .

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24. Find the area of the triangle whose lengths of sides are 15 m , 17 m , 21 m (use Heron 's Formula) (AS_1, AS_2)

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25. Find the area of the triangle formed by the points (0 , 0) , (4 , 0) ,(4 , 3) by unsing Heron's formula . (AS_1)

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26. Plot these points on the coordinate axis and join them (AS_3)

which gives a straight line ? Which in not why ?

A (1 , 2) , B (- 3 , 4) , C (7 , -1)

27. Plot these points on the coordinate axis and join them (AS_3)

which gives a straight line ? Which in not why

?

P(3 , - 5) , Q (5 , -1) R(2 , 1) , S (1 , 2)

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28. Find the slope of $\overleftrightarrow{AB}$ with the given end points

A (4 , - 6) , B (7 , 2)

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29. Find the slope of $\overleftrightarrow{AB}$ with the given end points

A (8 , - 4) , B (- 4 , 8)

30. Find the slope of $\overleftrightarrow{AB}$ with the given end points

A (- 2 , - 5) , B (1 , - 7)

1. Where so these following points lie- (0 , - 3) , (0 , -8) , (0 , 6) , (0 , 4) on coordi- nate plane ? (AS_3)

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2. What is the distance between (0 , -3) , (0 , -8) and justify that the distance between two points on Y - axis is $|y_2 - y_2|$ on coordinate plane ? (AS_1, AS_3)

3. Find the distance between points 'O' (origin) and 'A' (7 , 4) . (AS_1)

4. Find the distance between A(1 , - 3) and B(- 4 , 4) and rounded to two decimals . (AS_1)

5. Let A (4 , 2) , B (6 , 5) and C (1 , 4) be the vertices of $\triangle ABC$

The median from A meet BC at D . Find the coordinates of the poin D . (AS_1)

A(4, 2)

B (6, 5)

D

C (1, 4)
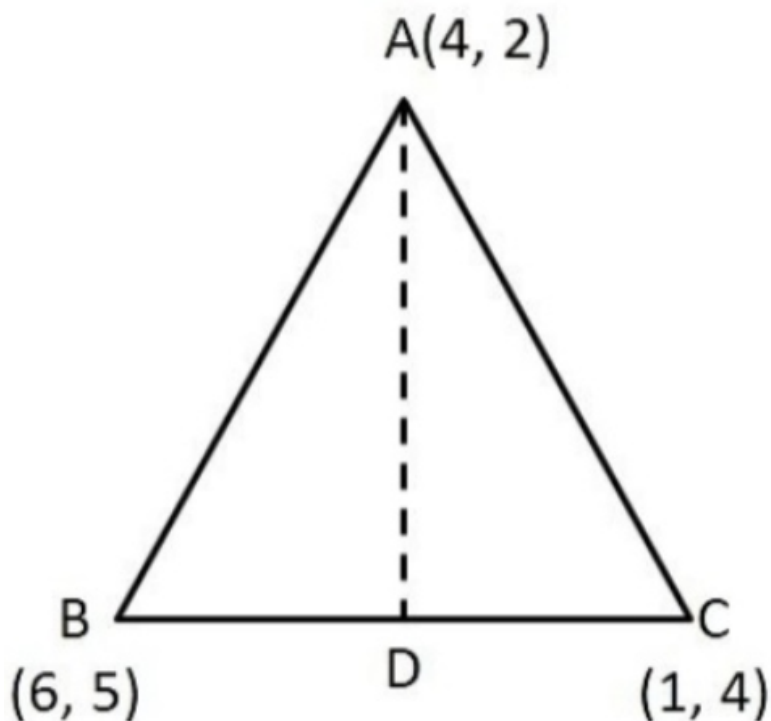
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6. Let A(4,2) , B(6,5) and C(1,4) be the vertices of the $\triangle ABC$. The median from A meets BC at D. Find the coordinates of the point D. Find the coordinates of the point P on AD such that AP : PD = 2 : 1 .

7. Let A(4,2) , B(6,5) and C(1,4) be the vertices of the △ABC. The median from A meets BC at D. Find the points which divide the line segment

BE in the ratio 2 : 1 and also that divide the line segment CF in the ratio 2 : 1.

8. What do you observe ? Justify the point that divides each median in the ratio 2 : 1 is the centriod of a traingle . (AS_3)

9. The points (2 , 3) (x , y) (3 , -2) are the vertices of a triangle . If the centroid of this triangle is origin then find (x , y)

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10. Take a point A on X -axis and B on Y - axis and find area of the triangle AOB . Discuss with your friends what did they do (AS_3)

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11. Find the area of the square formed by (0 , -1) , (2, 1) ,(0 , 3) and (- 2, 1) taken in order are as vertices .

12. Find the slope of $\overleftrightarrow{AB}$ with the points lying on (AS_1)

A (2 , 1) , B (2 , 6)

13. Find the slope of $\overleftrightarrow{AB}$ with the points lying on (AS_1)

A(- 4 , 2) , B (- 4 , - 2) `

14. Find the slope of $\overleftrightarrow{AB}$ with the points lying on (AS_1)

A (- 2 , 8) , B (- 2 , - 2)

15. Find the slope $\overset{\longleftrightarrow}{AB}$ with the points lying on A (3 , 2) , (B (- 8 , 2) . When the line $\overset{\longleftrightarrow}{AB}$ parallel to X - axis ? Why ? Think and discuss with your friends in groups . (AS_2, AS_3)

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Think Discuss

1. How will you find the distance between two points in which x or y co-ordinates are same

but not zero ? (AS_2)

2. Ramu says the distance of a point P(x.y) from the origin O(0,0) is $\sqrt{x^2 + y^2}$. Do you agree with Ramu or not ? Why ? (AS_2, AS_3)

3. Ramu also writes the distance formula as $AB = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$. why ?

4. Sridhar calculated the distance between T (5 , 2) and (R (- 4 , - 1) to the nearest tenth is 9 . 5 units . Now you find the distance between P (4 , 1) and Q (- 5 , - 2) . Do you get the same answer that Sridhar got ? Why ? (AS_2, AS_3)

5. The line joining points A (6 , 9) and B (- 6 , - 9) are given .

In which ratio does origin divide $\overline{AB}$? And what it is called for $\overline{AB}$? (AS_1)

6. The line joining points A (6 , 9) and B (- 6 , - 9) are given .

In which ratio does the point P(2 , 3) divide $\overline{AB}$?

7. The line joining points A (6 , 9) and B (- 6 , - 9) are given .

In which ratio does the point Q (- 2 , - 3) divide $\overline{AB}$?

8. The iine joining points A (6 , 9) and B (- 6, - 9) are givne

Into how many parts is $\overline{AB}$ divided by P and Q ?

9. The line joining points A (6 , 9) and B (- 6 , - 9) are given

What do we cell P and Q for $\overline{AB}$?

10. If $A(x_1, y_1), B(x_2, y_2)$ then the circumradius of ΔOAB is

11. Let A $(x_1, y_1), B(x_2, y_2), C(x_3, y_3)$. Then find the area of the following triangles in a plane . And discuss with your friends in groups

about the area of that triangle

(i)
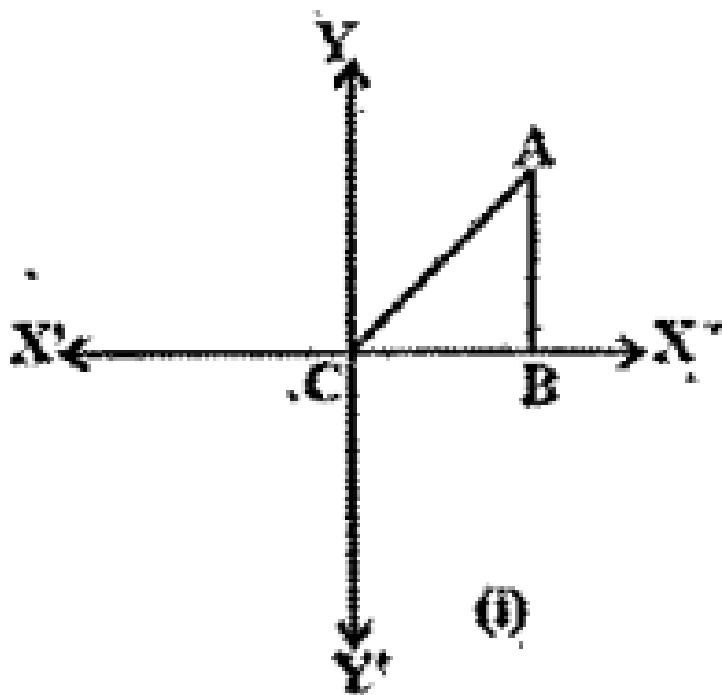
12. Let $A(x_1, y_1)$, $B(x_2, y_2)$, $C(x_3, y_3)$. Then find the area of the following triangles in a

plane . And discuss with your friends in groups
about the area of that triangle

(ii)

13. Let A (x_1, y_1), $B(x_2, y_2)$, $C(x_3, y_3)$. Then find the area of the following triangles in a plane . And discuss with your friends in groups about the area of that triangle

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14. Find the area of the triangle formed by the following points

(2 , 0) , (1 , 2) , (1 , 6)

15. Find the area of the triangle formed by the

following points

(3 , 1) , (5 , 0) , (1 , 2)

16. Find the area of the triangle formed by the

following points

(- 1.5 , 3) , (6 , -2) , (-3 , 4)

17. What do you observe ? Justify the point that divides each median in the ratio 2 : 1 is the centriod of a traingle . (AS_3)

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18. Plot these points on three different graphs . What do you observe ? (AS_5)

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19. Can we have a triangle having area zero square units area ? (AS_2, AS_3)

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20. What does it mean ?

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21. Does y = x + 7 represent a straight line ? Draw the line on the coordinate plane . At

which point does this line intersect Y-axis ?

How much angle does it make with X - axis ?

Discuss with your friends . (AS_3, AS_5)

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22. Find the slope $\overleftrightarrow{AB}$ with the points lying

on A (3 , 2) , (B (- 8 , 2) . When the line $\overleftrightarrow{AB}$

parallel to X - axis ? Why ? Think and discuss

with your friends in groups . (AS_2, AS_3)

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1. Find the distance between the following pair

of points .

(2 , 3) and (4 , 1)

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2. Find the distance between the following

pair of points.

(- 5 , 7) and (- 1 , 3)

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3. Find the distance between the following pair of points .

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

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4. Find the distance between the following pair of points .

(a , b) and (- a , - b)

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5. Find the distance between the points (0, 0) and (36, 15) .

(AS_1)

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6. Verify that the points (1 , 5) , (2 , 3) and (- 2 , -1) are collinear or not .

(AS_2)

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7. Check whether (5 , -2) , (6 , 4) and (7 , -2) are the vertices of an isosceles traingle .

8. In a classroom, 4 friends are seated at the points A,B,C and D as shown in figure. Jarina and Phani walk into the class and after observing for a few minutes Jarina asks Phani "Don't you think ABCD is a square?" Phani disagrees. Using distance formula. Find which

of them is correct. Why?

9. Show that the following points form an equilateral triangle A(a , 0) ,

$$(AS^2)$$

B (-a,0) , $C\left(0, a\sqrt{3}\right)$.

10. Prove that the points (- 7 , - 3) , (5 , 10) , (15 , 8) and (3 , - 5) taken in order are the corners of a parallelogram .

(AS_2)

11. Show that the points (- 4 , -7) , (- 1 , 2) , (8 , 5) and (5 , -4) taken in order are the vertices of a rhombus. And find its area.

(Hint : Area of rhombus $= \dfrac{1}{2} \times$ pro-duct of its diagonals) (AS_2, AS_4)

12. Name the type to quadrilateral formed, if any , by the following points, and give reasons for your answer. (AS_2)

(- 1 , -2) , (1 , 0) , (- 1, 2) , (- 3 , 0)

13. Name the type to quadrilateral formed, if any , by the following points, and give reasons for your answer. (AS_2)

(- 3 , 5), (1 , 10) , (3 , 1) , (- 1, -4) .

14. Name the type of quadrilateral formed, if any, by the points, and give reasons for your answer.

(4, 5), (7, 6), (4, 3), (1, 2)

15. Find the point on the X - axis which is equidistant from (2 , -5) and (- 2 , 9). (AS_1)

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16. If the distance between two points (x , 7) and (1 , 15) is 10, find the value of x . (AS_1)

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17. Find the value of y for which the distance between the points P(2 , -3) and Q (10, y) is 10 units. (AS_1)

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18. Find the radius of the circle whose centre is (3 , 2) and passes through (- 5 , 6) . (AS_4)

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19. Can you draw a triangle with vertices (1 , 5) , (5 , 8) and (13 , 14) ? Give reason . (AS_2)

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20. Find a relation between x and y such that the point (x , y) is equi-distant from the points (- 2 , 8) and (- 3 , - 5) . (AS_3)

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Exercise 7 2

1. Find the coordinates of the point which divides the line segment join-ing the points (-1 , 7) and (4 , - 3) in the ratio 2 : 3 (AS_1)

2. Find the coordinates of the points of trisection of the line segment joining (AS_1) (4 , -1) and (- 2 , -3) .

3. Find the ratio in which the line segment joining the point (- 3 , 10) and (6 , -8) is divided by (- 1 , 6). (AS_1)

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4. If (1 , 2) , (4 , y) , (x , 6) and (3 , 5) are the vertices of a parallelogram taken in order, find x and y . (AS_4)

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5. Find the coordinates of a point A , where AB is the diameter of a circle whose centre is (2 , - 3) and B is (1 , 4) . (AS_4)

6. If A and B are (- 2 , - 2) and (2 , - 4) respectively . Find the coordinates of P such that $AP = \dfrac{3}{7} AB$ and P lies on the segment AB . (AS_1)

7. Find the coordinates of points which divide the line segment joining A (- 4 , 0) and B(0 , 6) into four equal parts . (AS_1)

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8. Find the coordinates of the points which divides the line segment joining A(- 2 , 2) and B (2 , 8) into four equal parts (AS_1)

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9. Find the coordinates of the point which divide the line segment joining the points (a + b , a - b) and (a - b , a + b) in the ratio 3 : 2 internally. (AS_1)

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10. Find the coordinates of centroid of the triangle with following vertices : (AS_1)

(-1 , 3) , (6 , -3) and (- 3 , 6)

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11. Find the coordinates of centroid of the triangle with following vertices : (AS_1)

(6 , 2) , (0 , 0) and (4 , -7)

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12. Find the coordinates of centroid of the triangle with following vertices : (AS_1)

(1 , -1) , (0 , 6) and (- 3 , 0)

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1. Find the area of the triangle whose vertices are (AS_1)

(2 , 3) ,(-1 , 0), (2 , -4)

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2. Find the area of the triangle whose vertices are (AS_1)

(- 5 , -1), (3 , -5) , (5 , 2)

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3. Find the area of the triangle whose vertices are (AS_1)

$(0 , 0) , (3 , 0) , (0 , 2)$

4. Find the valueof 'K' for which the points are collinear. (AS_1)

$(7 , -2) , (5 , 1), (3 , K)$

5. Find the value of 'K' for which the points are collinear . (AS_1)

(8 , 1) , (K , -4), (2 , - 5)

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6. Find the value of 'K' for which the points are collinear . (AS_1)

(K , K) ,(2 , 3) and (4 , -1)

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7. Find the area of the triangle formed by joining the mid-points of the sides of the triangle whose vertices are (0 , - 1) , (2 , 1) and (0 , 3) . Find the ratio of this area to the area of the given triangle . (AS_1)

8. Find the area of the quadrilateral whose vertices taken inorder are (- 4 , - 2) , (- 3 , - 5) , (3 , - 2) and (2 , 3) (AS_1)

9. Find the area of the triangle formed by the points by using Heron's for -mula .

(1 , 1) , (1 , 4) and (5 , 1)

10. Find the area of the triangle formed by the points by using Heron's for -mula .

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

Exercise 7 4

1. Find the slope of the line joining the two given points (AS_1)

(4 , -8) and (5 , - 2)

2. Find the slope of the line joining the two given points (AS_1)

(0 , 0) and $\left(\sqrt{3}, 3\right)$.

3. Find the slope of the line joining the two given points (AS_1)

(2a , 3b) and (a , - b) .

4. Find the slope of the line joining the two given points (AS_1)

(a , 0) and (0 , b) .

5. Find the slope of the line joining the two

given points (AS_1)

A(- 1.4 , - 3 . 7) , B (- 2 . 4 , 1 . 3) .

6. Find the slope of the line joining the two

given points (AS_1)

A (2 , - 2) , B (- 6 , - 2) .

7. Find the slope of the line joining the two given points (AS_1)

$$A\left(-3\frac{1}{2}, 3\right), B\left(-7, 2\frac{1}{2}\right).$$

8. Find the slope of the line joining the two given points (AS_1)

A(0 , 4) , B (4 , 0)

Optional Exercise

1. Centre of a circle Q is on the Y-axis. The circle

passes through the points (0, 7) and (0, -1). If it

intersects the positive X-axis at (P, 0), what is

the value of 'P'?

2. The triangle $\triangle ABC$ is formed by the points A(2,3),B(-2,-3),C(4,-3). What is the point of intersection of side BC and angular bisector of A?

3. The side BC of an equilateral $\triangle ABC$ is parallel to X - axis . Find the slopes of line along sides BC , CA and AB .

4. A right triangle has sides 'a' and 'b' where a>b . If the right angle is bisected then find the distance between orthocentres of the smaller triangles using coordinate geometry.

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5. Find the centroid of the triangle formed by the line 2 x + 3 y - 6 = 0 with the coordinate axes .

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1. What do you mean by centroid of a triangle ?

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2. Find the co-ordinates of the point, which divides the line segment join-ing (2 , 0) and (0 , 2) in the ratio 1 : 1 .

3. The distance between two points A ($\cos \theta$ 0) , B (0 , a sin θ) is ....

4. If A (4 , 0) , B (0 , y) and AB = 5 , find the possible values of y .

5. Find the centroid triangle whose ver-tices are (3 , 4) (- 7 , - 2) and (10 , - 5) .

6. Find the distance between the points (0 , 0) and (a , b) .

7. Find the mid point of the line segment formed by the points (- 5 , 5) and (5 , - 5) .

8. If the slope of the line passing through the two points(2 , 5) and (5 , 8) is repre-sented by tan θ , (where $0° < \theta < 90°$) in trigonometry, then find angle θ .

9. A (0 , 3) , B (k , 0) and AB = 5 . Find the positive value of k .

10. Find the distance between the points (1 , 5) and (5 , 8) .

Observation Material 2 Marks Questions

1. Where do the points (0 , - 3) and (- 8 , 0) lie on co-ordinate axis ?

2. Find the relation between x and y such that point (x , y) is equidistant from the points (7 , 1) and (3 , 5) .

3. Find the value of k, for which the points (7 , 2) , (5 , 1) and (3 , k) are collinear.

4. Find the centroid of the triangle , whose vertices are (- 4 , 4) , (- 2 , 2) and (6 , - 6) .

5. Show that the points A = (4 , 2) , B (7 , 5) and C (9 , 7) are collinear.

6. A (3 , 6) , B (3 , 2) and C (8 , 2) are the vertices of a rectangle ABCD . Plot these points on a graph paper . From this find the coordinates of vertex D , so that ABCD will be a rectangle .

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7. Show that the points A (- 3 , 3) , B (0 , 0) , c (3 , - 3) are collinear .

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8. If the distance between the two points (8 , x) and (x , 8) is $2\sqrt{2}$ units, then find the value of 'x'.

9. Two vertices of a triangle are (3 , 2) , (- 2 , 1) and its centroid is $\left(\dfrac{5}{3}, \ -\dfrac{1}{3}\right)$. Find the third vertex of the triangle .

10. Find the angle made by the line join-ing (5 , 3) and (- 1, - 3) with the posi-tive direction of X - axis .

11. Determine 'x', if the slope of the line join-ing the two points (4 , x) , (7 , 2) is $\dfrac{8}{3}$.

12. In the diagram on a Lunar eclipse, if the positions of Sun, Earth and Moon are shown by (- 4 , 6) , (k , - 2) and (5 , - 6) respectively, then find the value of k .

13. If the distance between two points (x , 1) and (- 1 , 5) is '5' , find the value of 'x'.

1. Check whether the points (3 , 0) , (6 , 4) and (- 1 , 3) are the vertices of a right -angled isosceles triangle or not. Also find the area of the triangle .

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2. Find the area of the triangle formed by the points (2 , 3) ,(- 1 , 3) and (2 , - 1) using Heron's formula.

3. Name the type of the quadrilateral formed by joining the points A(- 1 , - 2) B (1 , 0) , C(- 1 , 2) and D(- 3 , 0) are graph paper , justify your answer .

4. If A (- 5 , 7) , B(- 4 , - 5) , C(- 1 , - 6) and D (4 , 5) are the vertices of a quadrilat-eral, then find

the area of a quadri-lateral ABCD .

5. Find the trisection points of the line segment joined by the points (- 3 , 3) and (3 , - 3).

6. If the points P(-3,9) ,Q(a , b) and R(4 , - 5) are collinear and a + b=1, then find the values of a

and b.

7. The points C and D are on the line segment joining A(- 4 , 7) and B(5 , 13) such that AC = CD = DB. Then find coor-dinates of points C and D .

8. The area of the triangle is 18 sq.units, whose vertices are (3 , 4) , (- 3 , -2) and (p , -1), then find the value of 'p' .

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9. Find the points of tri-section of the line segment joining the points (-2,1) and (7,4).

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Cce Model Examination

1. Find the distance between the points (5 , 7) and (7 , 5) .

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Cce Model Examination

1. Find the distance between the points (5 , 7) and (7 , 5) by plotting them in co-ordinate plane with the help of a right angled triangle .

2. Are the points (5 , 7) and (7 , 5) equal ?

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3. Find the point on X-axis which is equi distant from the points (5 , 7) and (7 , 5) .

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4. The X-coordinate of the point of intersection of the two ogives of grouped data is.........

A. Mean

B. Median

C. Range

D. Mode

Answer: B

 Watch Video Solution

5. Centroid of triangle , whose vertices are (- a , 0) , (0 , b) and (a , 0) is ....

   A. (a , b)

   B. $\left(\dfrac{a}{3}, 0\right)$

   C. $\left(0, \dfrac{b}{3}\right)$

   D. $\left(\dfrac{a}{3}, \dfrac{b}{3}\right)$

Answer: C

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6. The formula to find the area of a tri-angle is

....

A. $\Delta = \dfrac{1}{2}$ bh

B. $\Delta = \sqrt{(s-a)(s-b)(s-c)}$

C. $\Delta = \sqrt{s(s-a)(s-b)(s-c)}$

D. A and C

Answer: D

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7. In the given figure, area of $\triangle OAB$ is ....
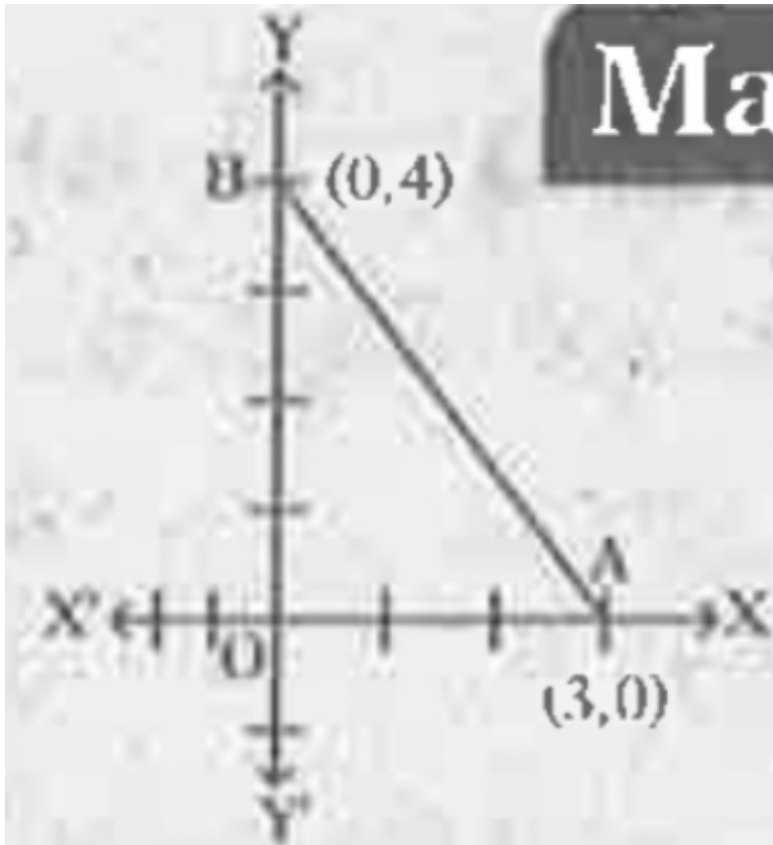
A. 12 sq. u.

B. 6 sq. u.

C. 24 sq. u.

D. 18 sq. u.

Answer: B

8. Slope of the line that passes through the points $P(x_1, y_1)$ and $Q(X_2, y_2)$ and making an angle θ with X-axis is

A. $\dfrac{y_2 + y_1}{x_2 + x_1}$

B. θ

C. $\dfrac{y_2 - y_1}{x_2 - x_1}$

D. $\sin \theta$

Answer: C

 Watch Video Solution

9. In a coordinate plane ,if line segment AB is parallel to X-axis, then which of the following is correct ?

A. x coordinates of points A and B are equal.

B. y coordinates of points A and B are equal .

C. x coordinate of point A and y coordinate of point B are equal .

D. y coordinate of point A and x coor-dinate of point B are equal.

Answer: B

10. The area of a triangle whose vertices (points) are (0 , 0) , (3 , 0) and (0 , 4) is .....

    A. 3 sq. units

    B. 4 sq. units

    C. 6 sq. units

    D. 5 sq. units

Answer: C

11. Slope of the line passing through the points (- 1 , 1) and (1 , 1) is ......

A. -1

B. 0

C. 1

D. not defined

Answer: B

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12. If the co-ordinates of the vertices of a rectangle are (0 , 0) , (4 , 0) , (4 , 3) and (0, 3) , then the length of its diagonal

A. 4

B. 5

C. 7

D. 3

Answer: B

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13. Sum of the distances from A (3 , 4) to x - axis and from B (5 , 7) to Y - axis is .....

A. 8

B. 10

C. 11

D. 9

Answer: D

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14. (x , y) , (2 , 0) , (3 , 2) and (1 , 2) are vertices of a parallelogram , then (x , y) = ...

   A. (0 , 0)

   B. (4 , 8)

   C. (1 , 0)

   D. (5 , 0)

Answer: A

15. The graph represented by y =x is ……

A.

B.

C.

D.

Answer: C

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16. The distance between two points

$A(a\cos\theta, 0), B(0, a\sin\theta)$ is ....

A. a

B. a^2

C. $\sqrt{a}$

D. 0

Answer: A

▶ Watch Video Solution

17. The area of the triangle BOA is ....sq. units .

A. 1

B. 2

C. 3

D. 4

Answer: C

---
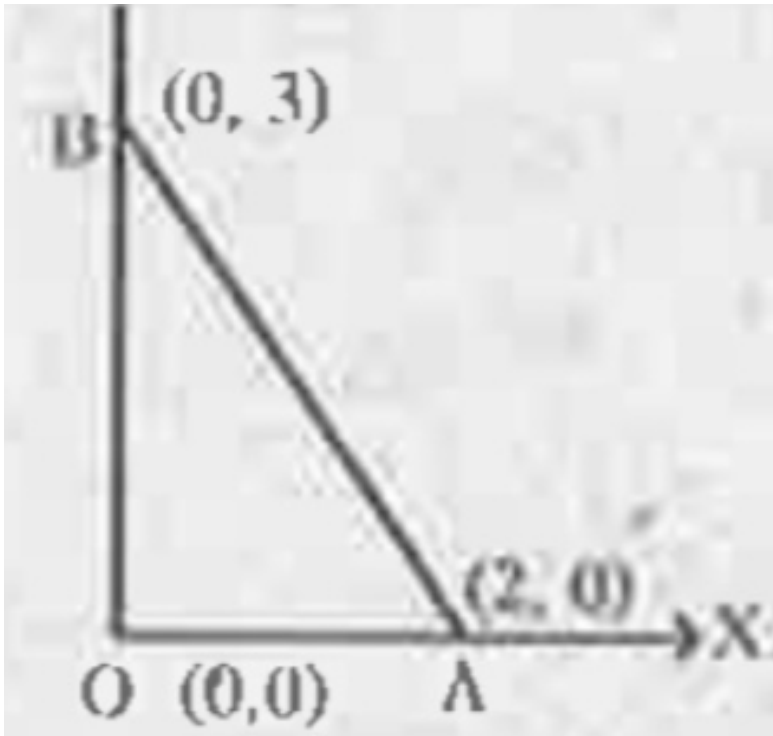
18. Slope of the line passing through the points (4 , 6) and (2 , - 5) is

A. $\dfrac{6}{5}$

B. $\dfrac{-2}{4}$

C. $\dfrac{5}{6}$

D. $\dfrac{11}{2}$

Answer: D

19. A point on the Y-axis is of form

A. $(0, y)$

B. $(x, 0)$

C. (x, y)

D. (y, y)

Answer: A

20. A point of the X-axis is of the form

A. $(0, y)$

B. $(x, 0)$

C. (x, y)

D. (x, x)

Answer: B

21. AOBC is a rectangle whose three vertices are A(4 , 0) , B (0 , 3) and O(0 , 0) , then its diagonal is .....

A. 4

B. 3

C. 5

D. 7

Answer: C

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22. The perimetre of a triangle whose vertices are A(12 , 0) , O(0 , 0) and B(0 , 5) is ......

A. 13

B. 30

C. 34

D. 60

Answer: B

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

A. 5

B. 55

C. 73

D. 24

Answer: C

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24. The distance of the point (- 4 , 3) from X-axis is ....

A. -4

B. -3

C. 4

D. 3

Answer: D

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25. The distance of the point (- 8 , - 7) from y-axis is .....

A. 8

B. -7

C. -8

D. 7

Answer: A

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26. The points (- 3 , 0) , (0 , 5) and (3 , 0) are the vertices of a .....triangle .

A. scalene

B. isosceles

C. equilateral

D. right angled

Answer: B

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27. The distance between the points (- 2 , 3) and (2 , - 3) is ......

A. 0

B. 52

C. $\sqrt{52}$

D. 16

Answer: C

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28. If the distance between the points (4 , y)

and (1 , 0) is 5 then y =

    A. 0

    B. 4

    C. $\pm$ 4

    D. $\pm$ 2

Answer: C

▶ **Watch Video Solution**

29. The distance between the points (0 , 7) and (-7 , 0) is .....

A. $\sqrt{14}$

B. 49

C. $2\sqrt{7}$

D. $7\sqrt{2}$

Answer: D

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30. A circle is draw with origin as centre and passing through (2 , 3) , then its radius is ...

A. 2

B. 3

C. 13

D. $\sqrt{13}$

Answer: D

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31. The area of the triangle formed by (a , b + c) , (b , c +a) and (c , a + b) is

A. 2 (a + b + c)

B. abc

C. 0

D. a + b + c

Answer: C

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32. If points $(x, 0)$, $(0, y)$ and $(1, 1)$ are collinear, then $\dfrac{1}{x} + \dfrac{1}{y} = \text{........}$

A. 1

B. -1

C. 0

D. 2

Answer: A

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

A. Q_1

B. Q_2

C. Q_3

D. Q_4

Answer: D

34. The points (a , 2a) , (3a , 3a) and (3 , 1) are collinear, then a = ...

A. $\dfrac{-1}{4}$

B. $\dfrac{1}{3}$

C. $\dfrac{-2}{3}$

D. $\dfrac{-1}{3}$

Answer: D

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35. P (2 , 2), Q (- 4, 4) and R (5 , - 8) are the vertices of a $\triangle PQR$, then median from 'R' is .....

A. $\sqrt{147}$

B. $\sqrt{157}$

C. $4\sqrt{17}$

D. $2\sqrt{13}$

Answer: B

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36. A circle drawn with origin as centre passes through $\left(\dfrac{13}{2}, 0\right)$. The point which doesn't lie in the interior of the circle is ....

A. $(-6, 3)$

B. $\left(5, \dfrac{1}{2}\right)$

C. $\left(2, \dfrac{7}{3}\right)$

D. $\left(\dfrac{-3}{4}, 1\right)$

Answer: A

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37. The distance of the point (- 9 , 40) from the origin is .....

A. 9

B. 40

C. 53

D. 41

Answer: D

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38. If (- 2 , 8) and (6 , - 4) are the end points of the diameter of a circle, then the centre of the circle is .....

A. (3 , 6)

B. (4 , 2)

C. (2 , 2)

D. (-3 , 2)

Answer: C

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39. The distance of a point (α, β) from the origin is ....

A. α, β

B. $\alpha^2 + \beta^2$

C. $\sqrt{\alpha^2 + \beta^2}$

D. $\sqrt{\alpha^2 - \beta^2}$

Answer: C

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40. The angle between X-axis and Y-axis is ......

A. 0°

B. 180°

C. 360°

D. 90°

Answer: D

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41. The midpoint of the line joining of (2 , 3) and (- 2 , - 3) is .....

A. $(0 , 0)$

B. $(2 , 3)$

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

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

Answer: A

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42. The slope of line join of (5 , -1) , (0 , 8) is .....

A. $\dfrac{7}{5}$

B. $\dfrac{9}{5}$

C. $-\dfrac{9}{5}$

D. $-\dfrac{5}{9}$

Answer: C

▶ **Watch Video Solution**

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43. Slope of X-axis is .....

A. 0

B. 1

C. -1

D. not defined

Answer: A

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44. Slope of Y-axis is .....

A. 1

B. -1

C. 0

D. not defined

45. The centroid of the triangle whose vertices

are $(2, -3), (4, 6), (-2, 8)$ is

A. $\left(\dfrac{8}{3}, \dfrac{17}{3} \right)$

B. (4, 11)

C. $(- 3, - 8)$

D. $\left(\dfrac{4}{3}, \dfrac{11}{3} \right)$

Answer: D

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46. Two vertices of a triangle are (3 , 5) and (- 4 , -5) . If the centroid of the triangle is (4 , 3), find the third vertex.

A. (13, 9)

B. (- 9 , - 13)

C. (9 , 13)

D. (13 , -9)

Answer: A

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47. The ratio in which the point (4 , 8) divide

the line segment joining the points (8 , 6) and

(0 , 10) is ......

A. $2:1$

B. $1:1$

C. $1:2$

D. $3:1$

Answer: B

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48. If $(0 , 0)$, $(a , 0)$ and $(0 , b)$ are collinear ,

then ......

A. ab = 0

B. a = b

C. a = - b

D. a - b = c

Answer: A

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49. If (-2 , -1) , (a , 0) , (4 , b) and (1 , 2) are the vertices of a parallelogram then a = ...

A. 3

B. 2

C. 4

D. 1

Answer: D

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50. In the above problem b = ...

A. 3

B. 4

C. -5

D. none

Answer: A

▶ View Text Solution

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51. (- 2 , 8) $\in$ ......

A. Q_1

B. Q_4

C. Q_2

D. Q_3

Answer: C

▶ **Watch Video Solution**

52. If A , B , C are collinear then area of $\triangle ABC$

= .....

A. 2

B. 1

C. 0

D. none

Answer: C

▶ **Watch Video Solution**

53. Area of triangle formed by (- 4 , 0) ,(0 , 0) and (0 , 5) is ......sq.units.

A. 12

B. 10

C. 13

D. 9

Answer: B

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54. The value of p if the distance between (2 ,

3) and (p, 3) is 5 is ……

A. 7

B. 9

C. 12

D. 5

Answer: A

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55. The value of k if the distance between (2 , 8) and (2 , k) is 3 is ......

A. 4. 5

B. 10

C. 9

D. 5

Answer: D

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56. A(0 , - 1) , B(2 , 1) and C(0 , 3) are the vertices

of $\triangle ABC$ then median through B has a

length ....units.

A. 9. 5

B. 10

C. 2

D. 9

Answer: C

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57. The closed figure formed by the points (-2 , 0) , (2 , 0) , (2 , 2) , (0 , 4) and (-2, -2) is a ......

A. pentagon

B. triangle

C. circle

D. none

Answer: A

▶ **Watch Video Solution**

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58. The coordinates of the midpoint joining $P(x_1, y_1)$ and $Q(x_2, y_2)$ is ....

A. $\left(\dfrac{x_1 + x_2}{2}, \dfrac{y_1 + y_2}{2} \right)$

B. $\left(\dfrac{x_1 - x_2}{2}, \dfrac{y_1 + y_2}{2} \right)$

C. $\left(\dfrac{x_1 + y_1}{2}, 1 \right)$

D. none

Answer: A

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59. The coordinates of the point which divides the line joining (x_1, y_1) and (x_2, y_2)

A. $\left(\dfrac{mx_2 + nx_1}{m + n}, \dfrac{my_2 + ny_1}{m + n} \right)$

B. $\left(0, \dfrac{m}{n}\right)$

C. $\left(\dfrac{mx_2}{m+n}, \dfrac{ny_1}{m+n}\right)$

D. $\left(\dfrac{mx_2+nx_1}{m-n}, \dfrac{my_2+ny_1}{m-n}\right)$

Answer: A

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60. The centroid divides each median in the

..............ratio.

A. $3:1$

B. $1:3$

C. $1:2$

D. $2:1$

Answer: D

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61. If the distance between the points (3 , k) and (4 , 1) is $\sqrt{10}$ then the value of k = ...

A. 8 or 10

B. 4 or -2

C. -1 or 2

D. none

Answer: B

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62. If the points (1 , 2) , (-1, x) and (2 , 3) are collinear then the value of x is .....

A. 9

B. 7

C. 0

D. -1

Answer: C

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63. If the centroid of the triangle formed with

(a , b) , (b , c) and (c , a) is O(0 , 0) then

$a^3 + b^3 + c^3 =$ .....

A. a + b + c

B. $\dfrac{a + b + c}{3}$

C. $\dfrac{abc}{3}$

D. 3 abc

Answer: D

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64. The distance between two points A (cos θ 0) , B (0 , a sin θ) is ....

A. $\dfrac{a}{3}$

B. a

C. a^2

D. $\dfrac{a}{2}$

Answer: B

▶ **Watch Video Solution**

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65. Distance of (x , y) from X-axis is ......

A. y

B. $-x$

C. $-y$

D. none

Answer: A

▶ **Watch Video Solution**

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66. Distance of (x , y) from Y -axis is .....

A. $-x$

B. y

C. x

D. none

Answer: C

▶ **Watch Video Solution**

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67. (x , 0) is a point on ......

A. X-axis

B. Y-axis

C. origin

D. none

Answer: A

▶ **Watch Video Solution**

68. (0 , y) is a point on .....

A. (0 , 0)

B. Y - axis

C. X - axis

D. none

Answer: B

69. Distance of (x , y) from origin is ......

A. $\sqrt{x} + \sqrt{y}$

B. $\sqrt{x + y}$

C. $\sqrt{xy}$

D. $\sqrt{x^2 + y^2}$

Answer: D

70. If $a < 0$ then $(-a, -a) \in$ ......

A. Q_2

B. Q_1

C. Q_4

D. Q_3

Answer: B

71. Coordinate geometry was introduced by ....

A. Rene Descartes

B. John Ven

C. Cayley

D. None

Answer: A

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72. Slope of the line $y = mx$ is .....

A. y

B. x

C. m

D. none

Answer: C

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73. Slope of the line joining the points (2a, 3b)

and (a , = b) is ......

A. $\dfrac{-a}{b}$

B. $\dfrac{b}{a}$

C. $\dfrac{b}{4a}$

D. $\dfrac{4b}{a}$

Answer: D

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74. Slope of the line joining the points A(-1 .4, -3.7) and B(-2.4,1.3) is ....

A. -5

B. 5

C. 6

D. 7

Answer: A

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75. $(3 , -5) \in$ ....

A. Q_4

B. Q_3

C. Q_1

D. Q_2

Answer: A

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76. The angle between the lines x = 2 and y = 3 is .....

A. $60°$

B. $70°$

C. $90°$

D. $80°$

Answer: C

▶ Watch Video Solution

77. Slope of vertical line is ....

A. 0

B. -1

C. 3

D. not defined

Answer: D

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78. Area of triangle formed with (-5,-1), (3,-5) and (5 , 2) is ......sq.units.

A. 28

B. 20

C. 32

D. 16

Answer: C

79. If the points $(k,k),(2, 3)$ and $(4, -1)$ are collinear then $k = $ ....

A. $\dfrac{-1}{7}$

B. $\dfrac{1}{2}$

C. $\dfrac{3}{7}$

D. $\dfrac{7}{3}$

Answer: D

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80. A(2 , 0) , B(1, 2) , C(1 , 6) then $\Delta ABC = $ ......

A. 10

B. 12

C. 2

D. 9

Answer: C

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81. Identify collinear points .

A. $(1, -6)$ $(3, -4)$, $(4, -3)$

B. $(1, -1)$ $(2, 3)$, $(2, 0)$

C. $(5, 2)$ $(3, -5)$, $(-5, -1)$

D. all

Answer: A

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82. The area of square formed with the vertices (0, -1) ,(2 , 1) , (0 , 3) and (-2 , 1) taken in order as vertices is .....sq.units.

A. 12

B. 6

C. 8

D. none

Answer: C

83. Find the coordinates of centroid of the triangle with following vertices : (AS_1)

(-1 , 3) , (6 , -3) and (- 3 , 6)

A. $\left(1, \dfrac{1}{2}\right)$

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

C. $\left(8, \dfrac{-1}{2}\right)$

D. (0 , 3)

Answer: B

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84. A(1 , - 1) , B(0 , 6) and C(-3, 0) then G = ...

A. $\left(\dfrac{8}{9}, \dfrac{1}{7} \right)$

B. $\left(\dfrac{6}{7}, \dfrac{1}{3} \right)$

C. $\left(\dfrac{1}{2}, \dfrac{1}{3} \right)$

D. $\left(\dfrac{-2}{3}, \dfrac{5}{3} \right)$

Answer: D

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85. The point of concurrence of medians of a triangle is called.....

A. centroid

B. orthocentre

C. centre

D. none

Answer: A

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86. Mid point of the line joining the points (1 , 1) and (0 , 0) is .....

A. (0,9)

B. (3 , 7)

C. $\left(\dfrac{1}{2}, \dfrac{1}{2} \right)$

D. $\left(1, \dfrac{1}{2} \right)$

Answer: C

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87. The radius of the circle whose centre is (3 , 2) and passes through (-5 , 6) is ....units.

A. $2\sqrt{5}$

B. $4\sqrt{7}$

C. $4\sqrt{3}$

D. $4\sqrt{5}$

Answer: D

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88. Area of parallelogram = ...sq.units.

A. $\dfrac{1}{2}$ bh

B. bh

C. $b^2 h^2$

D. none

Answer: B

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89. A(4 , 5) , B(7 , 6) then AB = ...units.

A. $\sqrt{10}$

B. 10

C. 8

D. $\sqrt{19}$

Answer: A

▶ **Watch Video Solution**

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90. In quadrilateral ABCD,

AB = BC = CD = AD and $AC \neq BD$ then it is a

.....

A. trapezium

B. square

C. parallelogram

D. none

Answer: D

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91. A(a , b) and B(-a, - b) then BA = ...units.

A. $2\sqrt{a}$

B. $2\sqrt{a^2 + b^2}$

C. $2\sqrt{b}$

D. $\sqrt{a^2 + b}$

Answer: B

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92. If θ is the angle made by a line with x-axis

then slope m = ...

A. $\tan\theta$

B. $\sec \theta$

C. $\text{cosec } \theta$

D. none

Answer: A

▶ **Watch Video Solution**

93. A(4 , 0) , B(8 , 0) then AB = ...units.

A. 6

B. 10

C. 4

D. 12

Answer: C

▶ **Watch Video Solution**

94. Other name for x-coordinate of a point is ....

A. abscissa

B. point

C. ordinate

D. none

Answer: A

▶ **Watch Video Solution**

95. $(8 , 10) \in$ ....

A. Q_2

B. Q_1

C. Q_3

D. none

Answer: B

96. Slope of horizontal line is ......

A. 3

B. -1

C. 0

D. none

Answer: C

97. ax + by + c = 0 , represents a ....

A. straight line

B. circle

C. curve

D. none

Answer: A

98. Heron's formula to calculate area of triangle is .....

A. $\sqrt{S(S-a)(S-b)}$

B. $\sqrt{S(S-a)(S-b)(S-c)}$

C. $\sqrt{S(S-a)(S-b)(S+c)}$

D. none

Answer: B

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99. In Heron's formula S = ...

A. $\dfrac{a - b - c}{2}$

B. $\dfrac{a + b - c}{2}$

C. $\dfrac{ab}{2} + c$

D. $\dfrac{a + b + c}{2}$

Answer: D

▶ Watch Video Solution

100. Coordinates of origin are ....

A. (a , b)

B. (3 , 7)

C. (0 , 0)

D. none

Answer: C

▶ **Watch Video Solution**

101. A(4 , 3) , B(8 , 6) then AB = ...units.

A. 9

B. 5

C. 16

D. 12

Answer: B

▶ Watch Video Solution

102. $Q_1 \cap Q_2 = \ldots$

A. ϕ

B. $\{0\}$

C. $\{8, 4\}$

D. none

Answer: A

▶ Watch Video Solution

103. If AC = AB + BC then the points A , B , C are

....

A. non collinear

B. collinear

C. can't be determined

D. none

Answer: B

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104. Slope of the line $\dfrac{x}{a} + \dfrac{y}{b} = 1$ is ......

A. $\dfrac{-b}{a}$

B. $\dfrac{b}{a}$

C. $\dfrac{a}{b}$

D. none

Answer: A

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105. The midpoint of the line joining the points (1 , 2) and (1 , p) is (1 , -1) then p = ...

A. -31

B. -3

C. -4

D. none

Answer: C

106. The centroid of the triangle formed with the line x + y = 6 with the coordinate axes is .....

A. (4 , 0)

B. (1 , 3)

C. (8 , 1)

D. (2 , 2)

Answer: D

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107. Slope of the line joining the points (2 , 5) and (k , 3) is 2 then k = ...

A. 4

B. 1

C. -1

D. none

Answer: B

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108. A point on X - axis is ....

A. (9, 0)

B. (0 , 3)

C. (9 , 3)

D. (3 , - 1)

Answer: A

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109. The slope of a line passing through (- 2 , 3) and (4 , a) is $\dfrac{-5}{3}$ then a = ...

A. 1

B. 7

C. -7

D. 2

Answer: C

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110. If $(1, x)$ is at $\sqrt{10}$ units from origin then the value of x = ...

    A. $\pm\ 31$

    B. $\pm\ 3$

    C. $\pm\ 2$

    D. $\pm\ 1$

Answer: B

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111. $A = \left(\dfrac{1}{2}, \dfrac{3}{2} \right)$, $B\left(\dfrac{3}{2}, \dfrac{-1}{2} \right)$ then BA = ...

A. $\sqrt{5}$

B. $\sqrt{6}$

C. $\sqrt{19}$

D. none

Answer: A

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112. X and Y axes will intersect at .....

A. (1,1)

B. (2 , 2)

C. (0 , 0)

D. (8 , 5)

Answer: C

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113. In $\Delta ABC, AB = BC$ then it is ....triangle .

A. scalene

B. equilateral

C. isosceles

D. none

Answer: B

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114. Y axis can be represented by ......

A. x = 0

B. y = 0

C. $y = \dfrac{1}{2}$

D. all

Answer: A

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115. y intercept of the line x - 2y + 1 = 0 is ....

A. $\dfrac{-1}{2}$

B. 1

C. -1

D. $\dfrac{1}{2}$

Answer: D

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116. If G is the centroid and AD be a median with length 12 cm of ΔABC, then the value of AG is
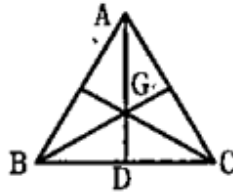
A. 4cm

B. 8cm

C. 10cm

D. 6cm

Answer: B

In the below figure G is the centroid
then AG : GD = ...   [   ]

A) 1 : 4

B) 2 : 3

C) 1 : 1

D) 2 : 1

117.

In the above figure AD : GD = ...

A. 3 : 1

B. 1 : 2

C. 2 : 1

D. none

Answer: A

118. equation of X - axis is ....

    A. x = 0

    B. x = 7

    C. x = 1

    D. y = 0

Answer: D

119. If (p, 2p) , (2p, 3p) and (3 , 1) are collinear then p = ...

A. $\dfrac{1}{3}$

B. -1

C. $\dfrac{-1}{3}$

D. none

Answer: D

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120. In $\triangle ABC$, all the sides are diferent then it is called ......triangle .

A. isosceles

B. scalene

C. equilateral

D. none

Answer: B

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121. In $\triangle PQR, PQ = QR$ then it is called

.......triangle .

A. isosceles

B. right triangle

C. equilateral

D. none

Answer: A

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122. A (1, - 1) , $B\left(2\dfrac{1}{2}, 0\right)$, C (4 , 1) then area of $\triangle ABC$ = ...sq. units.

A. 2

B. 9

C. 0

D. none

Answer: C

123. The point of concurrence of attitudes of a triangle is called its..........

    A. orthocentre

    B. centroid

    C. isosceles

    D. none

Answer: A

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124. $A(2a, 4a), B(2a, 6a), C(2a + \sqrt{3}a, 5a)$ then $\triangle ABC$ is ....triangle.

A. scalene

B. isosceles

C. equilateral

D. none

Answer: C

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125. Angle made by the line y = x with the positive direction of X-axis is ....

A. $45°$

B. $60°$

C. $90°$

D. $70°$

Answer: A

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126. Number of medians of triangle is ....

A. 5

B. 4

C. 7

D. 3

Answer: D

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127. Slope of line y = 7 is ......

A. 1

B. 7

C. 0

D. none

Answer: C

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128. If A (p , q) , B (m , n) and C (p - m , q - n)

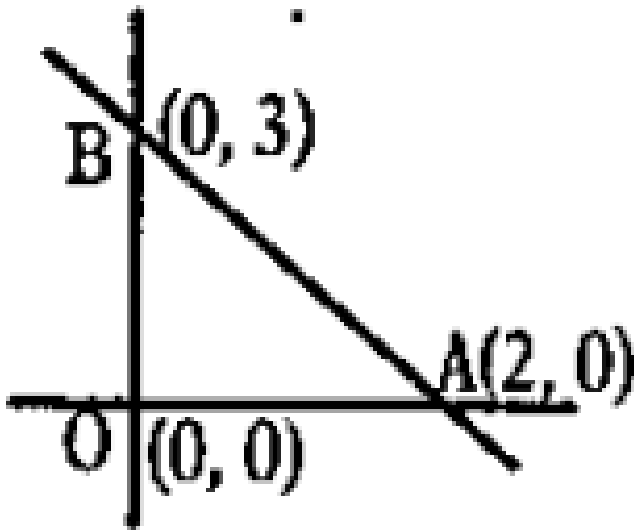are collinear then pn = ...

A. q^2 m

B. qm

C. $\dfrac{q}{m}$

D. none

Answer: B

129. The area of below triangle is ....sq.units.

A. 3

B. 8

C. 4

D. 6

Answer: A

In the below figure x = ... |

A) 1

B) – 7

C) 3

D) – 9
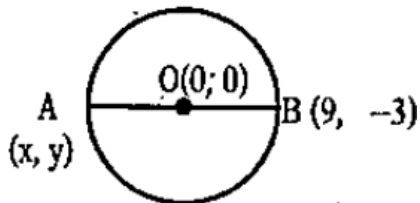
130.

In the above problem y = ...

A. 3

B. 7

C. -3

D. 8

Answer: A

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131. Area of trapezium = ... Sq.units.

A. ph

B. h(a + b)

C. $\dfrac{1}{2}$ h (a + b)

D. $\dfrac{1}{2}$ (a + b)

Answer: C

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132. P (cos θ, - cos θ) , Q(sin θ , sin θ) then PQ = ...

A. cos θ

B. $\sin^2 \theta$

C. 0

D. none

Answer: D

133. A(t , 2t) , B(- 2, 6) , C(3 , 1) and △ ABC = 5

sq.units then t = ...

A. 9

B. 4

C. -9

D. 2

Answer: D

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134. The diagonals of a parallelogram whose vertices are (2 , 3) , (4 , 5) , (4 , 9) and (2 , 7) will intersect at ......

    A. (0 , 0)

    B. (5 , 6)

C. (0 , 9)

D. (3 , 6)

Answer: B

135. Slope of the line 3x - 2 = 0 is ....

A. 2

B. 3

C. 0

D. not defined

Answer: D

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136. Each angle of an equilateral triangle is.............

A. $100°$

B. $70°$

C. $60°$

D. $90°$

Answer: C

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137. A(cot θ 1 ,) , B(0 , 0) then BA = ...

A. 5

B. 4

C. 1

D. none

Answer: D

138. Slope of the line joining the points A(0 , 0)

, B$\left(\dfrac{1}{2}, \dfrac{1}{2} \right)$ is ....

A. 4

B. 1

C. 3

D. 7

Answer: B

139. $(3 ,0)$,$(8,0)$,$\left(\dfrac{1}{2}, 0\right)$ ...... Points lie on ......

A. X-axis

B. Y-axis

C. (0,0)

D. none

Answer: A

140. $(x, y) \in Q_4$ then ......

    A. x = 0 , y = 0

    B. $x < 0, y > 0$

    C. $x > 0, y < 0$

    D. none

Answer: C

141. y intercept of the line $y = mx + c$ is ....

A. y

B. m

C. 1

D. none

Answer: D

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142. The midpoint of line segment divides it in ratio

    A. $1:1$

    B. $2:1$

    C. $1:2$

    D. $1:4$

Answer: A

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143. Diagonalse in a parallelogram .... Each other .

A. equal

B. trisect

C. bisect

D. none

Answer: C

144. The line joining the mid point of one side of a triangle from opposite vertex in called ......

A. ortho centre

B. Median

C. centroid

D. none

Answer: B

145. The area of parallelogram is ....if $\triangle ABC$

= 5 sq.units.

A. 4

B. 3

C. 10

D. 9

Answer: C

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146. x intercept of the line x - y + 1 = 0 is ......

A. 1

B. 2

C. 7

D. -1

Answer: D

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147. In rhombus all sides are ....

A. equal

B. not equal

C. 3 cm

D. 8 cm

Answer: A

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148. If the point (4 , -p) lie on X - axis then $p^2 + 2p - 1$ = ...

A. 0

B. 1

C. -1

D. 4

Answer: C

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149. If the point (a , 5) lies on Y-axis , the value of a = …..

A. $a > 0$

B. $a < 0$

C. a = 0

D. none

Answer: C

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150. If the distance between the points (x_1, y_1) and (x_2, y_2) is $|x_1 - x_2|$ then they are parallel to .....

A. X - axis

B. XY - axis

C. X'Y = axis

D. Y - axis

Answer: A

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151. The line that does not pass through origin and having a zero slope is ....

    A. Parallel to X - axis

    B. Parpendicular to X - axis

    C. Pependicular to Y - axis

    D. Parallel to Y - axis

Answer: A

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1. Find the perpendicular distance of that point (3,-4) from the line $2x - 5y + 2 = 0$.

A. $\dfrac{28}{\sqrt{29}}$ units

B. $\sqrt{29}\,units$

C. 28 units

D. None

Answer: A

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2. Write the equation

$x \cos \dfrac{\pi}{4} + y \sin \dfrac{\pi}{4} + 2 = 0$ in the intercept

form........

A. $\dfrac{x}{2\sqrt{2}} + \dfrac{y}{2} = 1$

B. $\dfrac{x}{-2\sqrt{2}} + \dfrac{y}{2\sqrt{2}} = 1$

C. $\dfrac{x}{2} + \dfrac{y}{3} = 1$

D. $\dfrac{x}{5\sqrt{2}} + \dfrac{y}{5\sqrt{2}} = 1$

Answer: B

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3. Find the area of Δ^{le} formed by the straight line $x\cos\alpha + y\sin\alpha = p$ on the co-ordinate axes.

A. $\dfrac{p^2}{\cos\alpha}$

B. $p^2 . \cos ec2\alpha$ sq.units

C. $\dfrac{p^2}{\sin 2\alpha}$ sq.units

D. 0

Answer: C

4. Find the distance between the parallel lines

$3x - 4y = 12$ and $3x - 4y = 7$

    A. 1 unit

    B. 2 units

    C. 3 units

    D. 0

Answer: A

5. Find the incentre of the Δ^{le} with the vertices $\left(1, \sqrt{3}\right),(0,0)$ and $(2,0)$

A. $\left(1, \sqrt{3}\right)$

B. $\left(\sqrt{3}, -\sqrt{3}\right)$

C. $\left(1, \dfrac{1}{\sqrt{3}}\right)$

D. $(1,1)$

Answer: C

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6. Line L has intercepts a and b on the coordinate axes. When the axes are rotated through a fixed given angle keeping the origin fixed, the same line L has intercepts P and q, then

A. $\dfrac{1}{p^2} + \dfrac{1}{q^2}$

B. $\dfrac{1}{p^2} - \dfrac{1}{q^2}$

C. $p^2 + q^2 = 1$

D. None

Answer: A

7. Find the value of 'a' such that $a^2 + 2a$, 2a+3

and $a^2 + 3a + 8$ and the sides of the Δ^{le}.

A. a=5

B. $a > 5$

C. $a < 5$

D. $a < 4$

Answer: B

8. Find the equation of a straight line passing through the point P(3,4) such that the portion between the axes is divided by P in the ratio 2:3.

A. $2x - y = 10$

B. $2x + 3y = 10$

C. $2x + y = 10$

D. $4x + 5y = 10$

Answer: C

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9. The co-ordinates of the vertex of a square ABCD are (1,2) and the equation of the diagonal BD is x+2y=10. Find the equation of other diagonal and the co-ordinates of the centre of the square.

A. $y - 2x = 0$

B. $2x + y = 0$

C. $x + y = 0$

D. None

Answer: A

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10. IF $y + x(2p + 1) + 3 = 0$ and $8y - x(2p - 1) - 5 = 0$ are perpendicular find p.

A. $\pm \dfrac{2}{3}$

B. $\pm \dfrac{3}{2}$

C. ± 3

D. ± 4

Answer: B

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11. IF $3(k-1)y - 6x = 2$ and $4y - 8x + 10 = 0$ are parallel then find k.

A. 1

B. -2

C. 2

D. 0

Answer: C

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12. IF $2y - p^2x = 3$ and $2y - (4px + 1) = 0$

are parallel find the value of p.

A. 1

B. 2

C. 3

D. 4

Answer: D

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13. IF the points (a,1),(1,2) and (0,b+1) are collinear. Then $\dfrac{1}{a} + \dfrac{1}{b} = \ldots\ldots\ldots$

A. 1

B. 2

C. -2

D. -1

Answer: A

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14. Find the gradient of the line joining the pair of points $(\sqrt{3}+1, 2), (\sqrt{3}+3, 4)$.

A. -1

B. 1

C. 2

D. -2

Answer: B

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15. If the points P=(a,2),Q=(1,3) and R=(5,b) are such that PQ=QR. Find 'a' and 'b' if P,Q and R are collinear.

A. a=-3,b=2

B. a=3,b=4

C. a=-3,b=4

D. a=1,b=2

Answer: C

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16. Find the co-ordinates of incentre of the triangle whose vertices are (-36,7),(20,7) and (0,-8)

A. (-1,0)

B. (1,2)

C. (-1,-2)

D. (4,5)

Answer: A

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17. The three vertices of Rhombus are (2,-1), (3,4) and (-2,3). Find the fourth vertex.

A. (-1,-2)

B. (-3,-2)

C. (1,2)

D. (0,0)

Answer: B

18. Find the ratio in which the point A=(16,-8)

divides the line segment joining B=(1,2) and C=

(10,-4).

A. $5: -2$

B. $1:2$

C. $5:2$

D. $3:4$`

Answer: A

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19. IF the distance of the point P(x,y) from A=

(a,0) be (a+x) then y^2=..........

A. 4

B. 4a

C. 4ax

D. x

Answer: C

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20. IF the point P(x,y) be equidistant from the

point A=(m+n,n-m),

B=(m-n,m+n) then nx=...........

A. my

B. m

C. y

D. none

Answer: A

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21. Find the distance between the two points

$\left(at_1^2, 2at_1\right), \left(at_2^2, 2at^2\right), t_2 > t_1.$

A. $a. \, (t_2 - t_1) . \sqrt{(t_1 + t_2)^2 + 4}$

B. $(t_2 - t_1) \sqrt{(t_1 + t_2)^2 - 4}$

C. $(t_2 - t_1) \sqrt{4(t_1 + t_2)}$

D. None

Answer: A

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22. Find the equation of the line passing through the point (4,5) and making an angle of $\dfrac{\pi}{4}$ with the line $2x - y + 7 = 0$.

A. $x + 3y + 10 = 0$

B. $x - 3y + 11 = 0$

C. $2x + 3y + 4 = 0$

D. $x + y + 1 = 0$

Answer: B

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23. A line passes through the point (22,-6). IF the intercept on the x-axis exceeds the intercept on the y-axis by 5. Find its equation.

A. $x + 2y = 3$

B. $5x + 45y = 7$

C. $6x + 11y = 66$

D. $x + y + 1 = 0$

Answer: C

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24. IF the points

$A(1 + t, 1), B(1 + 2t, 3), C(2t + 2, 2t)$ are

collinear find 't'.

A. 1

B. -1

C. -2

D. $-\dfrac{1}{2}$

Answer: D

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25. The straight line x+y=0, 3x+y-4=0 and x+3y-4=0 from a triangle which is

A. Isosceles

B. Right angle

C. Equilateral

D. Scalene triangle

Answer: A

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26. The vertices of a Δ^{le} are A=(-2,8), B=(1,2), C= (7,-1). Find the equation of median through A.

A. $5x + 4y = 22$

B. $x + y + 1 = 0$

C. $2x + 3y = 0$

D. None

Answer: A

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27. If the three vertices of a Rectangle are the points (2,-2),(8,4) and (5,7) find the co-ordinates of fourth vertex.

A. (-1,1)

B. (1,-1)

C. (0,0)

D. (1,2)

Answer: A

28. Given $\dfrac{1}{a} + \dfrac{1}{b} = k$, find the fixed point which passes through the straight line $\dfrac{x}{a} + \dfrac{x}{b} = 1$

A. (1,1)

B. (k,k)

C. $\left(\dfrac{1}{k}, \dfrac{1}{k} \right)$

D. (0,0)

Answer: C

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29. IF a,b,c are in A.P then the striaght line

$ax + by + c = 0$ will always pass through a

fixed point. Find it.

A. (1,2)

B. (1,-2)

C. (2,3)

D. (0,0)

Answer: B

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30. A line is such that its segment between the axes is bisected at the point $(x_1 : y_1)$ Find the equation of that line.

A. $\dfrac{x}{2x_1} + \dfrac{y}{2y_1} = 1$

B. $\dfrac{x}{2} + \dfrac{y}{3} = 1$

C. $ax + by = c$

D. $y^2 = 4ax$

Answer: A

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