Jyamithiyum Beejaganithavum

Que 1: (a) Find Slope of the line passing through (3,5), (4,7). (b) What is the slope a line parallel to this line ? Marks :(2) Ans: a) Slope = 2 b) Slope of the parallel line = 2Que 2: Write the equation of the line passing through A (0,12) and B (16, 0) Marks :(2) **Ans:** Slope = -3/4Equation of the line is 3x + 4y = 48Que 3: The vertices of a triangle are (-3, 3), (5, 3) and (1, 6). Prove that it is an isosceles triangle Marks :(3) Ans: Lengths of sides are 8, 5, 5 Que 4: Consider the points A (1, 0), B (7, 0) C (4, 4) a). Which of these points are on the x - axis? b). Prove that triangle ABC is isosceles. Marks :(4) **Ans:** a) A (1, 0), B (7, 0) b) AC = 5, BC = 5AB = AC. so it is an isosceles triangle Que 5: Consider the points L (9, 2) and M (1, -2)a). What is the slope of the line LM? b). Find the coordinates of two more points on the line c). Find the coordinates of the point where this line meets the x - axisMarks :(4) **Ans:** (a) slope = 12 (b) For writing other two points (c) (5, 0) Que 6: If A (2,3) and B (6,9) are two points on a line, then Marks :(4)

(a) Find the coordinates of the mid point of the line AB

(b) Find the slope of AB

(c) Find the equation of the line having slope 1/2 and passing through the mid point of AB.

Ans:

(a) (4,6) (b) $\frac{9-3}{6-2} = \frac{6}{4} = \frac{3}{2}$ (c) $\frac{y-6}{x-4} = \frac{1}{2}$ x - 4 = 2y - 12 x - 2y + 8 = 0

Que 7: P (5, 2), Q (8, 6) are two points on a line, then Marks :(5)

a). What is the slope of PQ?

b). Write the equation of the line PQ

c). Find the co-ordinates of the point at which the line PQ cut the 'x' axis Ans:

a). slope = $\frac{6-2}{8-5} = \frac{4}{3}$ b) If (x, y) is a point on the line $\frac{y-2}{x-5} = \frac{4}{3}$. 4x - 3y -14 = 0 c). In the x axis y =0 4x -14 = 0 $x = \frac{7}{2}$ The point is $(\frac{7}{2}, 0)$

Que 8: If the equation of a circle is x2+y2=4 then

(a)What is the radius of the circle ?

(b) If the x coordinate of a point on this circle is zero, what is the y- coordinate of that point ?

(c) Write the coordinates of another point on the circle. Marks :(3)

Ans: (a) Radius = 2

(b) when x=0, y = 2

(c) coordinates of another point = (0,2), (-2,0)

Que 9: A circle with centre at (1,3) passes through the point (5,6).

(a) Find the radius of the circle?

(b) Write the equation of the circle. Marks :(3)

Ans: (a) Radius of the circle = $\sqrt{(5-1)^2 + (6-3)^2} = \sqrt{4^2+3^2} = \sqrt{25} = 5$

(a) Equation of the circle (x-1)2+(y-3)2=25

Que 10: A (2,5) and B (a,-3) are joined to get the line AB as in the figure and P (4,b) is the mid point of AB. *Marks :(2)*

- a) Find the value of a.
- b) Find the value of b.



A (2,5)

Ans: a) a = 6

b) b = 1

Que 11: The equation of a circle is x2+y2=9

(a) Find the radius of the circle ?

(b) Write the coordinates of the centre of the circle.

(c) Find the points of contact of the circle with X axis. Marks :(4)

Ans: Radius = 3 cm

Centre is (0,0)

Points of intersection with the x axis (3,0), (-3, 0)

Que 12: A (2,3) B (6,7) are two points on a line.

(a) Find the slope of AB.

- (b) If P is the mid point of AB, then find the coordinates of P.
- (c) Write the equation of the line AB. Marks :(4)

Ans:

slope = $\frac{7-3}{6-2} = \frac{4}{4} = 1$ Co-ordinates of P = $(\frac{2+6}{2}, \frac{3+7}{2}) = (4,5)$ Equation of AB $\frac{y-3}{x-2} = 1$ x - y + 1 = 0

Que 13: In the figure PB : QB = 1 : 2. Find the coordinates of the point B. *Marks :(*2*)*



Ans:

x coordinate of B is $6 + \frac{1}{3}(18 - 6) = 10$ y coordinate of B is $8 + \frac{1}{3}(14 - 8) = 10$

Que 14: In the figure, OC is perpendicular to AB.

(a) Prove that Δ OAB is isosceles ?

- (b) Find the coordinates of C?
- (c) Write the equation of the line OC. Marks :(5)



Ans: (a) OA = 6, OB = 6

So, triangle OAB is isosceles

(b) C (3,3)

(c) For writing the equation x = y or x - y = 0

Que 15: In the figure A, B, C are the mid-points of QR, PR, and PQ respectively. A (2,4) R (5,5) B(4,7) .Then write the coordinates of P , Q , and C. *Marks :(3)*



P (3, 9)

Que 16: The vertices of the parallelogram ABCD are A (-3 , 2) , B (1 , 5) ,C (4 , 9) Then

- (a) Write the coordinates of D?
- (b) Find the length of AB and AD
- (c) Calculate the area of the parallelogram ? Marks :(5)



Ans:

(a) D = (0, 6) (b) AB = $\sqrt{4^2+3^2} = 5$ AD = $\sqrt{3^2+4^2} = 5$ ABCD is a rhombus AC = $\sqrt{7^2+7^2} = 7\sqrt{2}$ BD = $\sqrt{1^2+1^2} = \sqrt{2}$ Area = $\frac{1}{2} \times 7 \sqrt{2} \times \sqrt{2} = 7$ sq.unit

Que 17: In the figure ABCD is a parallelogram. Write the coordinates of point C



Ans: X coordinate of point C = 9 + 6 - 4 = 11

Y coordinate of point C = 8 + 6 - 2 = 12Coordinates of point C = (11,12)