



# MATHS

## BOOKS - ICSE

### CO-ORDINATE GEOMETRY

#### Exercise 26 A

1. For each equation given below, name the dependent and independent variables.

$$y = \frac{4}{3}x - 7$$



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2. For each equation given below, name the dependent and independent variables.

$$x = 9y + 4$$



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3. For each equation given below, name the dependent and independent variables.

$$x = \frac{5y + 3}{2}$$



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4. For each equation given below, name the dependent and independent variables.

$$y = \frac{1}{7}(6x + 5)$$



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5. Plot the following points on the same graph paper:

(8,7)



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6. Plot the following points on the same graph paper:

(3,6)



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7. Plot the following points on the same graph paper:

(0,4)



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**8.** Plot the following points on the same graph

paper:

$(0,-4)$



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**9.** Plot the following points on the same graph

paper:

$(3,-2)$



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**10.** Plot the following points on the same graph

paper:

$(-2,5)$



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**11.** Plot the following points on the same graph

paper:

$(-3,0)$



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**12.** Plot the following points on the same graph

paper:

$(5,0)$



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**13.** Plot the following points on the same graph

paper:

$(-4,-3)$



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**14.** Find the values of  $x$  and  $y$  if:

$$(x - 1, y + 3) = (4, 4)$$



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**15.** Find the values of  $x$  and  $y$  if:

$$(3x - 1, 2y - 7) = (9, -9)$$



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**16.** Find the values of  $x$  and  $y$  if:

$$(5x - 3y, y - 3x) = (4, -4)$$

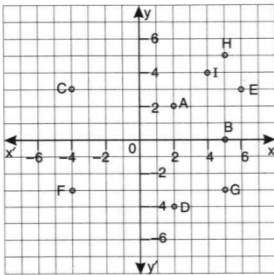




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17. Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given condition:

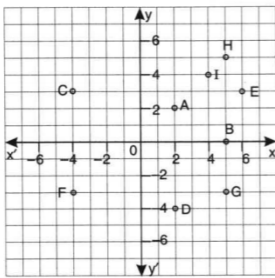
the abscissa is 2.



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**18.** Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given condition:

the ordinate is 0.

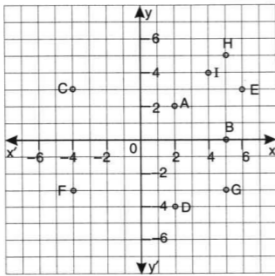


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**19.** Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given

condition:

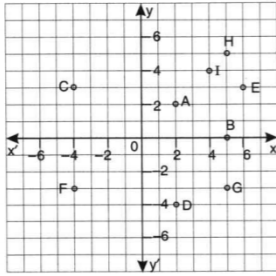
the ordinate is 3.



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**20.** Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given condition:

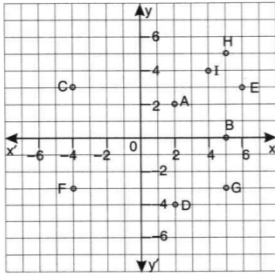
the ordinate is -4.



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**21.** Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given condition:

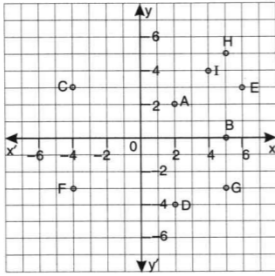
the abscissa is 5.



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**22.** Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given condition:

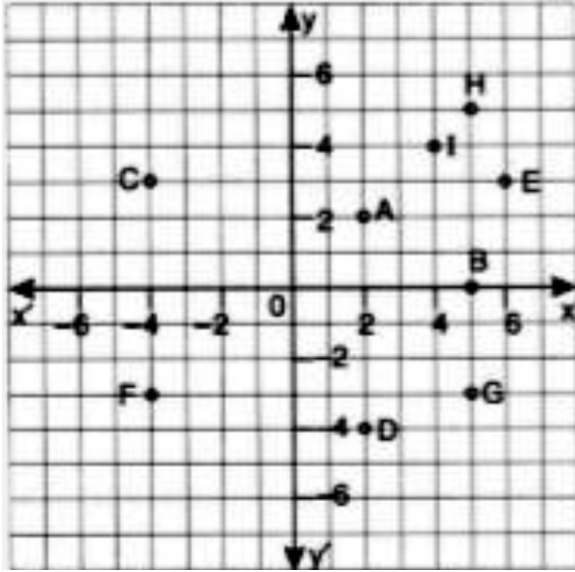
the abscissa is equal to the ordinate.



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**23.** Use the graph given alongside, to find the co-ordinate of the point (s) satisfying the given condition:

the ordinate is half of the abscissa.



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24. State, true or false:

The ordinate of a point is its x-co- ordinate.

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**25.** State, true or false:

The origin is in the first quadrant.



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**26.** State, true or false:

The y-axis is the vertical number line.



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**27.** State, true or false:

Every point is located in one of the four quadrant.



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**28.** State, true or false:

If the ordinate of a point is equal to its abscissa, the point lies either in the first quadrant or in the second quadrant.



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**29.** State, true or false:

The origin  $(0,0)$  lies on the x-axis.



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**30.** State, true or false:

The point  $(a,b)$  lies on the y-axis if  $b=0$ .



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**31.** In each of the following find the coordinates of the point whose abscissa is the solution of the first equation and ordinate is the solution of the second equation:

$$3 - 2x = 7, 2y + 1 = 10 - 2\frac{1}{2}y$$



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**32.** If each of the following find the co - ordinates of the point whose abscissa is the solution of the first equation and ordinate is

the solution of the second equation:

$$\frac{2a}{3} - 1 = \frac{a}{2}, \quad \frac{15 - 4b}{7} = \frac{2b - 1}{3}$$



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**33.** In each of the following find the coordinates of the point whose abscissa is the solution of the first equation and ordinate is the solution of the second equation:

$$5x(5 - x) = \frac{1}{2}(3 - x), \quad 4 - 3y = \frac{4 + y}{3}$$



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**34.** In each of the following the co-ordinates of the three vertices of a rectangle ABCD are given. By plotting the given points, find, in each case, the co-ordinates of the fourth vertex:

$A(2, 0)$ ,  $B(8, 0)$  and  $C(8, 4)$



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**35.** In each of the following the co-ordinates of the three vertices of a rectangle ABCD are given. By plotting the given points, find, in each

case, the co-ordinates of the fourth vertex:

A(4,2), B(-2,2) and D(4,-2)



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**36.** In each of the following the co-ordinates of the three vertices of a rectangle ABCD are given. By plotting the given points, find, in each case, the co-ordinates of the fourth vertex:

A(-4,-6), C(6,0) and D(-4,0)



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**37.** In each of the following the co-ordinates of the three vertices of a rectangle ABCD are given. By plotting the given points, find, in each case, the co-ordinates of the fourth vertex:

B(10,4),C(0,4) and D(0,-2)



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**38.** A (-2,2),B(8,2) and C(4,-4) are the vertices of a parallelogram ABCD. By plotting the given points on a graph paper, find the co-ordinates of the fourth vertex D.

Also from the same graph, state the co-ordinates of the mid points of the sides AB and CD.



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**39.**  $A(-2,4)$ ,  $C(4,10)$  and  $D(-2,10)$  are the vertices of a square ABCD. Use the graphical method to find the co-ordinates of the fourth vertex B. Find :

- (i) the co-ordinates of the mid point of BC
- (ii) the co-ordinates of the mix point of CD and
- (iii) the co-ordinates of the point of



intersection of the diagonals of the square ABCD.



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**40.** By plotting the following points on the same graph paper, check whether they are collinear or not:

(i)  $(3, 5)$ ,  $(1, 1)$  and  $(0, -1)$

(ii)  $(-2, -1)$ ,  $(-1, -4)$  and  $(-4, 1)$



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**41.** Plot the points A (5,-7) from point A, draw AW perpendicular to X axis and AN perpendicular to y axis. Write the co-ordinates of points M and N.



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**42.** In square ABCD, A=(3,4),B=(-2,4) and C=(-2,-1). By plotting these point on a graph paper, find the co-ordinates of vertex D. Also find the area of the square.



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43. In rectangle along x-axis and  $AB=8$  units.

Find the co-ordinates of vertices A,B and C.



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## Exercise 26 B

1. Draw the graph for each linear equation given below:

$$x = 3$$



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2. Draw the graph for each linear equation given below:

$$x + 3 = 0$$



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3. Draw the graph for each linear equation given below:

$$x - 5 = 0$$



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4. Draw the graph for each linear equation given below:

$$2x - 7 = 0$$



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5. Draw the graph for each linear equation given below:

$$y = 4$$



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6. Draw the graph for each linear equation given below:

$$y + 6 = 0$$



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7. Draw the graph for each linear equation given below:

$$y - 2 = 0$$



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8. Draw the graph for each linear equation given below:

$$3y + 5 = 0$$



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9. Draw the graph for each linear equation given below:

$$2y - 5 = 0$$



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10. Draw the graph for each linear equation given below:

$$y = 0$$



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11. Draw the graph for each linear equation given below:

$$x = 0$$



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12. Draw the graph for each linear equation given below:

$$y = 3x$$



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13. Draw the graph for each linear equation given below:

$$y = -x$$



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14. Draw the graph for each linear equation given below:

$$y = -2x$$



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15. Draw the graph for each linear equation given below:

$$y = x$$



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**16.** Draw the graph for each linear equation given below:

$$5x + y = 0$$



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**17.** Draw the graph for each linear equation given below:

$$x + 2y = 0$$



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**18.** Draw the graph for each linear equation given below:

$$4x - y = 0$$



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**19.** Draw the graph for each linear equation given below:

$$3x + 2y = 0$$



**Watch Video Solution**

**20.** Draw the graph for each linear equation given below:

$$x = -2y$$



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**21.** Draw the graph for each linear equation given below:

$$y = 2x + 3$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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22. Draw the graph for each linear equation given below:

$$y = \frac{2}{3}x - 1$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**23.** Draw the graph for each linear equation given below:

$$y = -x + 4$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**24.** Draw the graph for each linear equation given below:

$$y = 4x - \frac{5}{2}$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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25. Draw the graph for each linear equation given below:

$$y = \frac{3}{2}x + \frac{2}{3}$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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26. Draw the graph for each linear equation given below:

$$2x - 3y = 4$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**27.** Draw the graph for each linear equation given below:

$$\frac{x - 1}{3} - \frac{y + 2}{2} = 0$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**28.** Draw the graph for each linear equation given below:

$$x - 3 = \frac{2}{5}(y + 1)$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**29.** Draw the graph for each linear equation given below:

$$x + 5y + 2 = 0$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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30. Draw the graph for each equation given below:

$$3x + 2y = 6$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**31.** Draw the graph for each equation given below:

$$2x - 5y = 10$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**32.** Draw the graph for each equation given below:

$$\frac{1}{2}x + \frac{2}{3}y = 5$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**33.** Draw the graph for each equation given below:

$$\frac{2x - 1}{3} - \frac{y - 2}{5} = 0$$

In each case find the co-ordinate of the points where the graph (line) drawn meets the co-ordinate axes.



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**34.** For each linear equation, given above, draw the graph and then use the graph drawn (in each case) to find the area of a triangle enclosed by the graph and the co-ordinate axes:

(i)  $3x - (5 - y) = 7$



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**35.** For each linear equation, given above, draw the graph and then use the graph drawn (in each case) to find the area of a triangle enclosed by the graph and the co-ordinate axes:

$$7 - 3(1 - u) = 5 + 2x$$



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**36.** For each pair of linear equations given below, drawn graphs and then state, whether the lines drawn are parallel or perpendicular to



each other.

$$y = 3x - 1$$

$$y = 3x + 2$$



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**37.** For each pair of linear equations given below, draw graphs and then state, whether the lines drawn are parallel or perpendicular to each other.

$$y = x - 3$$

$$y = -x + 5$$



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**38.** For each pair of linear equations given below, draw graphs and then state, whether the lines drawn are parallel or perpendicular to each other.

$$2x - 3y = 6$$

$$\frac{x}{2} + \frac{y}{3} = 1$$



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**39.** For each pair of linear equations given below, draw graphs and then state, whether the lines drawn are parallel or perpendicular to each other.

$$2x - 3y = 6$$

$$3x + 4y = 24$$

$$\frac{x}{4} + \frac{y}{3} = 1$$



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**40.** On the same graph paper, plot the graph for

$$y = x - 2, y = 2x + 1 \quad \text{and} \quad y = 4 \quad \text{from}$$

$x = -4$  to  $3$ .



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**41.** On the same graph paper, plot the graphs of  $y = 2x - 1$ ,  $y = 2x$  and  $y = 2x + 1$  from  $x = -2$  to  $x = 4$ . Are the graph (lines) drawn parallel to each other?



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**42.** The graph of  $3x + 2y = 6$  meets the  $x$ -axis at point P and the  $y$ -axis at point Q. Use the graphical method to find the co-ordinate of points P and Q.



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**43.** Draw the graph of equation  $x + 2y - 3 = 0$

.

From the graph find

$x_1$  the value of  $x$ , when  $y=3$

(ii)  $x_2$ , the value of  $x$ , when  $y=-2$



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**44.** Draw the graph of equation  $3x - 4y = 12$

Use the graph drawn to find:

(i)  $y_1$ , the value of  $y$ , when  $x=4$

(ii)  $y_2$  the value of  $y$ , when  $x=0$



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**45.** Draw the graph of equation  $\frac{x}{4} + \frac{y}{5} = 1$ .

Use the graph drawn to find:

(i)  $x_1$  the value of  $x$ , when  $y=10$

(ii)  $y_1$  the value of  $y$ , when  $x=8$



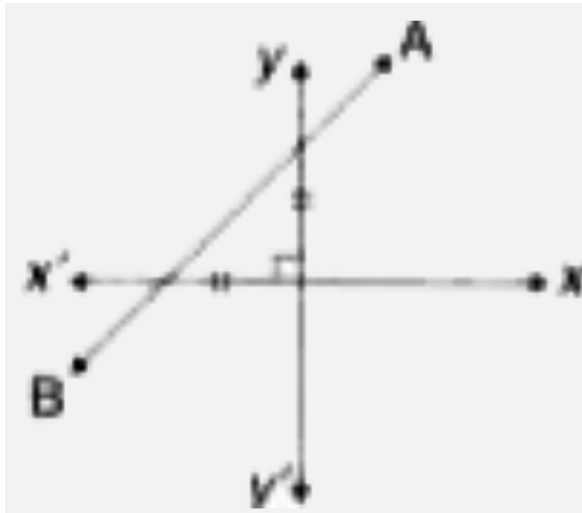
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**46.** Use the graphical method to show that the straight lines given by the equations  $x + y = 2$ ,  $x - 2y = 5$  and  $\frac{x}{3} + y = 0$  pass through the same point.



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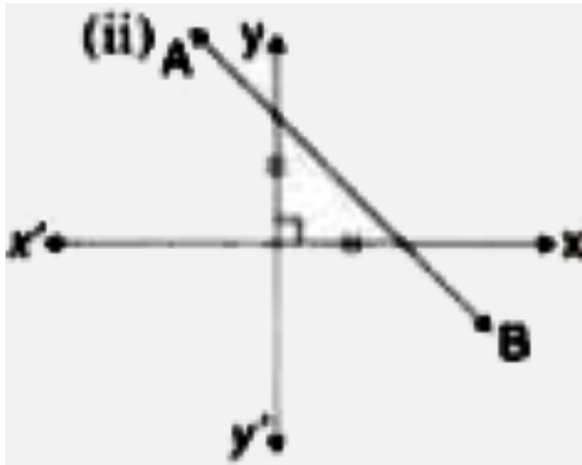
1. In each of the following find the inclination of line AB:



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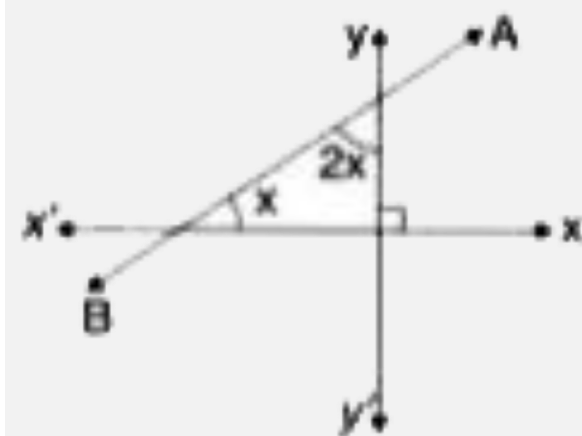


2. In each of the following find the inclination of line AB:



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3. In each of the following find the inclination of line AB:



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4. Write the inclination of a line which is:

(i) parallel to x-axis.



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**5.** Write the inclination of a line which is:  
perpendicular to x-axis.



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**6.** Write the inclination of a line which is:  
parallel to y-axis



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7. Write the inclination of a line which is:

perpendicular to y-axis



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8. Write the slope of the line whose inclination

is:

$0^\circ$



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9. Write the slope of the line whose inclination

is:

$30^\circ$



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10. Write the slope of the line whose inclination

is:

$45^\circ$



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**11.** Write the slope of the line whose inclination  
is:

$60^\circ$



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**12.** Write the slope of the line whose inclination  
is:

$0^\circ$



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**13.** Find the inclination of the line whose slope

is:

1



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**14.** Find the inclination of the line whose slope

is:

$\sqrt{3}$



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**15.** Find the inclination of the line whose slope is:

$$\frac{1}{\sqrt{3}}$$



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**16.** Write the slope of the line which is:  
parallel to x-axis



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**17.** Write the slope of the line which is:

perpendicular to x-axis



**Watch Video Solution**

**18.** Write the inclination of a line which is:

parallel to y-axis



**Watch Video Solution**

**19.** Write the slope of the line which is:  
perpendicular to y-axis



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**20.** For each of the following given below, find  
th slope and the y-intercept.

$$x + 3y + 5 = 0$$



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21. For each of the following given below, find the slope and the y-intercept.

$$3x - y - 8 = 0$$



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22. For each of the following given below, find the slope and the y-intercept.

$$5x = 4y + 7$$



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**23.** For each of the following given below, find the slope and the y-intercept.

$$x = 5y - 4$$



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**24.** For each of the following given below, find the slope and the y-intercept.

$$y = 7x - 2$$



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25. For each of the following given below, find the slope and the y-intercept.

$$3y = 7$$



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26. For each of the following given below, find the slope and the y-intercept.

$$4y + 9 = 0$$



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**27.** Find the equation of the line whose:

slope =2 and y-intercept=3



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**28.** Find the equation of the line, whose:

Slope =5 and y intercept =-8



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**29.** Find the equation of the line, whose:

Slope =-4 and y intercept =2



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**30.** Find the equation of the line whose:

slope  $= -3$  and y-intercept  $= -1$



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**31.** Find the equation of the line, whose:

Slope  $= 0$  and y intercept  $= -5$



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**32.** Find the equation of the line whose:

slope =0 and y-intercept =0



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**33.** Draw the line  $3x + 4y = 12$  on a graph paper. From the graph paper, read the y-intercept of the line.



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**34.** Draw the line  $2x - 3y - 18 = 0$  on a graph paper. From the graph paper, read the  $y$ -intercept of the line.



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**35.** Draw the graph of line  $x + y = 5$ .



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**Questions**

1. Express the equation  $4x - 5y + 20 = 0$  in the form so that:

(i)  $x$  is dependent variable and  $y$  is the independent variable.

(ii)  $y$  is dependent variable and  $x$  is independent variable.



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2. Find the values of  $x$  and  $y$ . If

(i)  $(x, 4) = (-7, y)$

(ii)  $(x - 3, 6) = (4, x + y)$



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3. Plot the points

$A(4, 2)$ ,  $B(-5, 3)$ ,  $C(-4, -5)$  and  $D(5, -2)$

.



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4.  $A(3,6)$ ,  $B(3,2)$  and  $C(8,2)$  are the vertices of a rectangle. Plot these points on a graph paper and then use it to find the co-ordinates of the vertex  $D$ .



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5. Find the co-ordinates of the point whose abscissa is the solution of the first quadrant and the ordinate is the solution of the second equation.

$$0.5x - 3 = -0.25x \quad \text{and}$$

$$8 - 0.2(y + 3) = 3y + 1$$



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6. Draw the graph of each of the following equations:

(i)  $y = 3$    (ii)  $y + 5 = 0$    (iii)  $x = 4$    (iv)

$x = 6 = 0$



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7. Draw the graph of  $y = -2x$



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8. Draw the graph of  $y = 3x - 4$



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9. Draw the graph of  $y = -2x + \frac{3}{2}$



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10. Draw the graph of the equation

$3x + 2y - 5 = 0$ . Use this graph to find:

(i)  $x_1$  the value of  $x$ , when  $y=7$

(ii)  $y_1$  the value of  $y$ , when  $x=3$



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**11.** Find the slope and the  $y$ -intercept of the line:

(i)  $2x - 3y + 5 = 0$    (ii)  $2y + 5x = 7$    (iii)

$2y - 5 = 0$



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12. Find the equation of a line whose

(i) slope = -3 and y-intercept = 5 (ii)  $m=8$  and  $c=-6$



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## Topic 1 3 Mark Questions

1. In each of the following find the coordinates of the point whose abscissa is the solution of the first equation and ordinate is the solution of the second equation:

$$3 - 2x = 7, 2y + 1 = 10 - 2\frac{1}{2}y$$





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2. In each of the following find the coordinates of the point whose abscissa is the solution of the first equation and ordinate is the solution of the second equation:

$$5x(5 - x) = \frac{1}{2}(3 - x), 4 - 3y = \frac{4 + y}{3}$$



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3. In each of the following the co-ordinates of the three vertices of a rectangle ABCD are

given. By plotting the given points, find, in each case, the co-ordinates of the fourth vertex:

A(-4,-6),C(6,0) and D(-4,0)



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4. By plotting the following points on the same graph paper, check whether they are collinear or not:

(i) (3,5),(1,1) and (0,-1)

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



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5. By plotting the following points on the same graph paper, check whether they are collinear or not:

$(-2, -1)$ ,  $(-1, -4)$  and  $(-4, 1)$



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6. Plot the points A (5,-7) from point A, draw AW perpendicular to X axis and AN perpendicular to y axis. Write the co-ordinates of points M and N.



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7. Write the slope of the line whose inclination is:

$$0^\circ$$



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8. Write the slope of the line whose inclination is:

$$30^\circ$$



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9. Write the slope of the line whose inclination

is:

$45^\circ$



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10. For each of the equations given below, find

the slope and the y intercept.

$$x + 3y + 5 = 0$$



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11. For each of the equations given below, find the slope and the y intercept.

$$3x - y - 8 = 0$$



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12. For each of the equations given below, find the slope and the y intercept.

$$4y + 9 = 0$$



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**13.** Find the equation of the line, whose:

Slope =5 and y intercept =-8



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**14.** Find the equation of the line, whose:

Slope =-4 and y intercept =2



**Watch Video Solution**

15. Find the equation of the line, whose:

Slope = 0 and y intercept = -5



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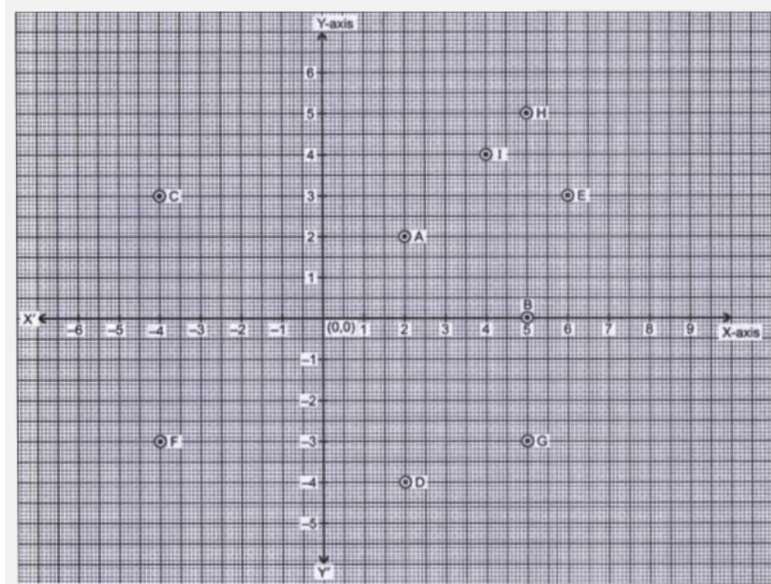
## Topic 1 4 Mark Questions

1. Use the graph given along side, to find the co ordinates of the point (s) satisfying the given conditions:

(i) The abscissa is 2 (ii) The ordinate is 0 (iii) The ordinate is 3 (iv) The ordinate is 2 (v) The



abscissa is 5 (vi) The abscissa is equal to the ordinate (vii) The ordinate is half of the abscissa



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2. A  $(-2,2)$ , B  $(8,2)$  and C  $(4,-4)$  are the vertices of a parallelogram ABCD. By plotting the given points on a graph paper, find the co-ordinates of the fourth vertex D.

Also from the same graph, state the co-ordinates of the mid points of the sides AB and CD.



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3. A  $(-2,4)$  , C  $(4,10)$  and D  $(-2,10)$  are the vertices of a square ABCD. Use the graphical method to

find ordinates of the fourth vertex B. Also, find:

The co-ordinates of the mid point of BC.



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4. A  $(-2,4)$  , C  $(4,10)$  and D  $(-2,10)$  are the vertices of a square ABCD. Use the graphical method to find ordinates of the fourth vertex B. Also, find:

The co ordinates of the mid point of CD.



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5. A (-2,4) , C (4,10) and D (-2,10) are the vertices of a square ABCD. Use the graphical method to find ordinates of the fourth vertex B. Also, find: The co ordinates of the point of intersection of the diagonals of the square ABCD.



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6. Draw the graph for  $\frac{2x - 1}{3} - \frac{y - 2}{5} = 0$

Also find the co ordinates of the points where the graph line) drawn meets the co-ordinate axes.



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7. On the same graph paper, plot the graphs of  $y = 2x - 1$ ,  $y = 2x$  and  $y = 2x + 1$  from  $x = -2$  to  $x = 4$ . Are the graph (lines) drawn parallel to each other?



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8. The graph of  $3x + 2y = 6$  meet the  $x$  axis at point P and the  $y$  axis at point Q. Use the graphical

method to find the co-ordinates of the points P and Q.



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9. Use the graphical method to show that the straight lines given by the equations  $x + y = 2$ ,  $x - 2y = 5$  and  $\frac{x}{3} + y = 0$  pass through the same point.



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1. Draw the graph for each equation given below:

$$x=5$$



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2. Draw the graph for each equation given below:

$$y + 7 = 0$$



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3. Draw the graph for each equation given below:

$$2x + 3y = 0$$



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4. Draw the graph of the equation

$$4x + 3y + 6 = 0$$

From the graph find

(i)  $y_1$  the value of  $y$ , when  $x=12$

(ii)  $y_2$  the value of  $y$ , when  $x=-6$



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5. Draw the graph of the equation

$$4x + 3y + 6 = 0$$

From the graph find

(i)  $y_1$  the value of  $y$ , when  $x=12$

(ii)  $y_2$  the value of  $y$ , when  $x=-6$



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6. Draw the graph obtained from the table

below:

$x$	$a$	3	-5	5	$c$	-1
$y$	-1	2	$b$	3	4	0

Use the graph to find the value of  $a$ ,  $b$  and  $c$ .

State a linear relation between the variables  $x$  and  $y$ .



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7. A straight line passes through the points  $(2,4)$  and  $(5,-2)$ . Taking  $1 \text{ cm} = 1 \text{ unit}$ , mark these points on a graph paper and draw the straight line through these points. If points  $(m,-4)$  and

(3,n) lie on the line drawn, find the values of m and n.



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8. Use the graphical method to find the value of x for which the expressions  $\frac{3x + 2}{2}$  and  $\frac{3x}{4} - 2$  are equal.



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**Topic 2 4 Mark Questions**

1. Draw the graph of the straight line given by the equation  $4x - 3y + 36 = 0$

Calculate the area of the triangle formed by the lines drawn and the co-ordinate axes.



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2. Use graph paper for this equation. Take  $2\text{cm}=1$  unit the both the axes.

Draw the graph of  $x+y+3=0$  and  $3x-2y+4=0$ . Plot only three points per line.



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3. The area of a circle is  $154 \text{ cm}^2$ . Its diameter is

A. 7 cm

B. 14 cm

C. 21 cm

D. 28 cm

**Answer: (-2,-1)**



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4. A plane is observed to be approaching the airport. It is at a distance of 12 km from the point of observation and makes an angle of elevation of  $60^\circ$ . Find the height above the ground of the plane.



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5. The sides of a triangle are given by the equation

$$y - 2 = 0, y + 1 = 3(x - 2) \text{ and } x + 2y = 0$$

Find, graphically:

The area of a triangle



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6. The sides of a triangle are given by the equation

$$y - 2 = 0, y + 1 = 3(x - 2) \text{ and } x + 2y = 0$$

Find, graphically:

The area of a triangle



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7. By drawing a graph for each of the equations  $3x + y + 5 = 0$ ,  $3y - x = 5$  and  $2x + 5y = 1$  on the same graph paper. Show that the lines given by these equations are concurrent (i.e., they pass through the same point). Take 2cm=1 unit the both the axes.



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8. Using a scale of 1cm to 1unit for both the axes Draw the graph of the following equations :  $6y = 5x + 10$ ,  $y = 5x - 15$  From the graph



find:

The co-ordinates of the points where the two lines intersect.



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9. Using the scale of 1 cm to 1 unit for both the axes, draw the graphs of the following equations:  $6y = 5x + 10$ ,  $y = 5x - 15$ .

From the graph find

(i) the co-ordinates of the point where the two lines intersect,

(ii) the area of the triangle between the lines and the x-axis.



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**10.** Solve graphically the following system of linear equations (use graph sheet)

$$x - 3y = 3$$

$$2x + 3y = 6$$

Also , find the area of the triangle formed by these two lines and the y-axis.



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11. Use graph paper for this equation. Draw the graph of  $3x - 2y = 5$  and  $2x = 3y$  on the same axes. Use 2cm = 1 unit on the both the axes and plot only 2 points per line. Write down the co-ordinates of the point of intersection of the two lines. Also find the area of the triangle formed by the lines and the y-axis.



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**Topic 3 3 Mark Questions**

1. Find the co-ordinates of the points on the y-axis, which are at a distance of 10 units from the point  $(-8, 4)$



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2. A point A is at a distance of  $\sqrt{10}$  unit from the point  $(4,3)$ . Find the co-ordinates of the point A, if its ordinate is twice its abscissa.



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3. What point on the x-axis is equidistant from the points  $(7,6)$  and  $(-3,4)$ ?



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4. The vertices of a triangle are  $(5,1)$ ,  $(11,1)$  and  $(11,9)$ . Find the co-ordinates of the circumcentre of the triangle.



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5. The centre of a circle is  $(2x - 1, 3x + 1)$ . Find  $x$  if the circle passes through  $(-3, 1)$  and the length of diameter is 20 unit.



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6. The distance of point  $P(x, y)$  from the points  $A(1, -3)$  and  $B(-2, 2)$  are in the ratio 2 : 3. Show that

$$5x^2 + 5y^2 - 34x + 70y + 58 = 0.$$



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7. Find the co-ordinates of the points on y axis which are at a distance of  $5\sqrt{2}$  units from the point (5,8)



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8. A is a point on the x-axis and B is (-7, 9). Distance between the points A and B is 15 units. Find the coordinates of point A.



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9. Given three points  $P(-1, 2)$ ,  $A(2, k)$  and  $B(k, -1)$ .

Given that  $PA = PB$ . Find the value of  $k$ .



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## Topic 3 4 Mark Questions

1. A point  $P$  lies on  $x$ -axis and another point  $Q$  lies on  $y$ -axis.

Write the ordinate of the point  $P$ .



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2. A point P lies on x-axis and another point Q lies on y-axis.

Write the abscissa of the point Q.



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3. A point P lies on x-axis and another point Q lies on y-axis.

If the abscissa of the point P is -12 and the ordinate of the point Q is -16, calculate the length of the segment PQ.



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4. Prove that the points P (0,-4), Q(6,2) R(3,5) and S (-3, -1) are the vertices of a rectangular PQRS.



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5. Prove that the points A (1,-3) B (-3,0) and C(4,1) are the vertices of an isosceles right angle triangle. Find the area of the triangle.



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6. Show that the points A (5,6) B (1,5) and C (2,1) and D (6,2) are the vertices of a square ABCD.



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7. Point P (2,-7) is the centre of a circle with radius 13 units, PT is perpendicular to chord AB and T= (-2,-4). Calculate the length

AT



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8. Point P (2,-7) is the centre of a circle with radius 13 units, PT is perpendicular to chord AB and T= (-2,-4). Calculate the length

AT



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