



Exercise 3A

Question 19:

On a graph paper, draw horizontal line $X'OX$ and a vertical line YOY' as x-axis and y-axis respectively.

The given system of equations is $2x - 5y + 4 = 0$, $2x + y - 8 = 0$

Graph of $2x - 5y + 4 = 0$:

$$2x - 5y + 4 = 0 \Rightarrow y = \frac{2x+4}{5} \text{ --- (1)}$$

Thus, we have the following table for equation (1)

x	3	-2	8
y	2	0	4

On the graph paper plot the points A (3, 2), B (-2, 0) and C (8, 4)

Join AB and AC to get BC

Thus, line BC is the graph of the equation $2x - 5y + 4 = 0$

Graph of $2x + y - 8 = 0$:

$$2x + y - 8 = 0 \Rightarrow y = -2x + 8 \text{ --- (2)}$$

Then, we have following table for equation (2)

x	3	1	2
y	2	6	4

On the same graph paper plot the points P (1, 6) and Q (2, 4)

The third point A (3, 2) has been already plotted.

Join PA.

Thus, line PA is the graph of $2x + y - 8 = 0$

On extending the graph lines on both sides, we find that these graph lines intersect the y-axis at the point R(0, 8) and S(0, 0.8)

Question 20:

On a graph paper, draw horizontal line $X'OX$ and a vertical line YOY' as x-axis and y-axis respectively.

The given system of equations is
 $4x - 5y - 20 = 0$, $3x + 5y - 15 = 0$

Graph of $4x - 5y - 20 = 0$:

$$4x - 5y - 20 = 0 \Rightarrow y = \frac{4x-20}{5} \text{ --- (1)}$$

Thus, we have the following table for equation (1)

x	0	5	10
y	-4	0	4

On the graph paper plot the points A(0, -4), B(5, 0) and C(10, 4)

Join AB and BC to get AC

Thus, line AC is the graph of equation $4x - 5y - 20 = 0$

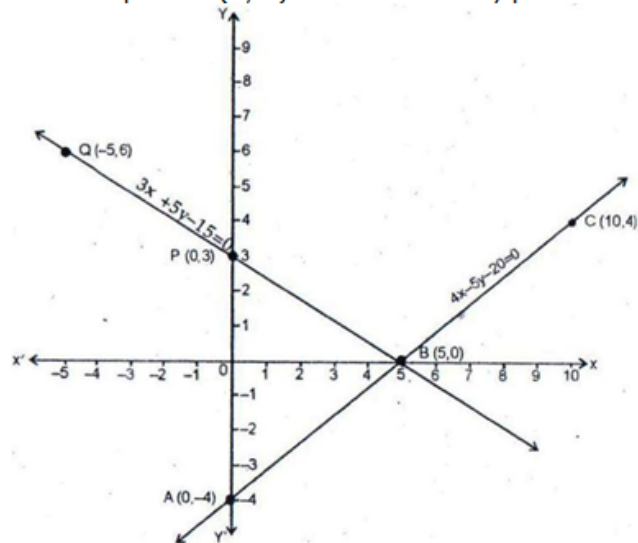
Graph of $3x + 5y - 15 = 0$:

$$3x + 5y - 15 = 0 \Rightarrow y = \frac{-3x+15}{5} \text{ --- (2)}$$

Thus, we have the following table for equation (2)

x	5	0	-5
y	0	3	6

On the same graph paper plot the points P (0, 3) and Q (-5, 6).
The third point B (5, 0) has been already plotted in the graph.



Join PQ and PB to get the line QB

Thus, line QB is the graph of equation $3x + 5y - 15 = 0$

The two graph lines intersect at B(5, 0)

$\therefore x = 5, y = 0$ is the solution of the given system of equations

Clearly, the vertices of ΔPBA formed by these lines and the y-axis
are A (0, -4), B (5, 0) and P (0, 3)

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