



Exercise 3A

Question 25:

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

$$2x + 3y = 4, 4x + 6y = 12$$

Graph of $2x + 3y = 4$:

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

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

x	2	-1	-4
y	0	2	4

On the graph paper plot the points A (2, 0) and B (-1, 2) and C (-4, 4)

Join AB and BC to get AC

Thus, line AC is the graph of the equation $2x + 3y = 4$

Graph of $4x + 6y = 12$:

$$4x + 6y = 12 \Rightarrow y = \frac{-4x + 12}{6} \quad \text{--- (2)}$$

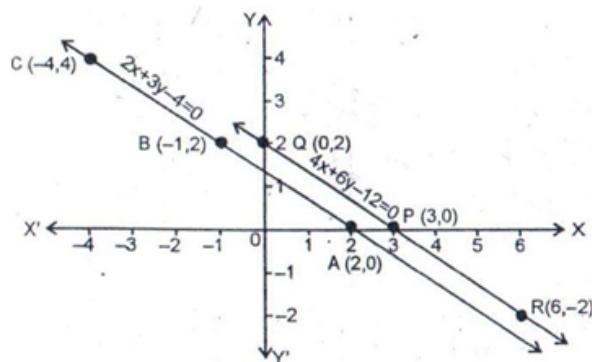
Thus, we have following table for equation (2)

x	3	0	6
y	0	2	-2

On the same graph plot the points P (3, 0) and Q (0, 2) and R (6, -2)

Join PQ and PR to get QR

Thus, line QR is the graph of the equation $4x + 6y = 12$



It is clear from the graph that two graph lines are parallel and do not intersect when produced

Hence, the given system of equation is inconsistent

Question 26:

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
 $2y - x = 9$, $4y - 2x = 20$

Graph of $2y - x = 9$:

$$2y - x = 9 \Rightarrow y = \frac{x+9}{2} \text{ --- (1)}$$

Thus, we have following table for equation (1)

x	1	-1	-3
y	5	4	3

On the graph plot the points A(1, 5), B(-1, 4), C(-3, 3)
 Join AB and BC to get AC
 Thus line AC is the graph of the equation $2y - x = 9$

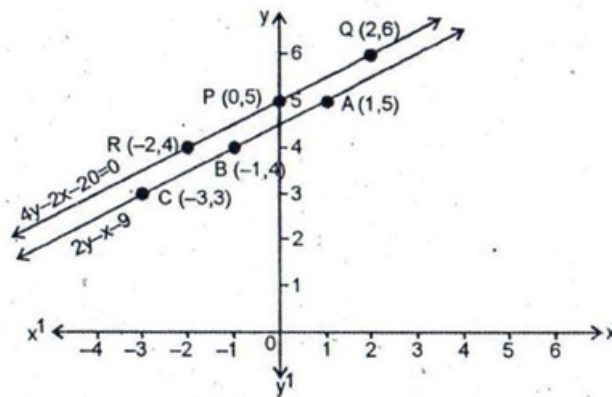
Graph of $4y - 2x = 20$:

$$4y - 2x = 20 \Rightarrow y = \frac{2x+20}{4} \text{ --- (2)}$$

Thus, we have following table for equation (2)

x	0	2	-2
y	5	6	4

On the graph plot the points P(0, 5), Q(2, 6) and R(-2, 4)
 Join PQ and PR to get QR
 Thus, line QR is the graph of the equation $4y - 2x = 20$



It is clear from the graph that two graph lines are parallel and do not intersect even when produced.
 Hence, the given system of equation is inconsistent.

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