



Pair of Linear Equations in Two variables Ex 3.2 Q34

Answer :

(i) Let the number of girls be x and the number of boys be y .

According to the question, the algebraic representation is

$$x + y = 10$$

$$x - y = 4$$

For $x + y = 10$,

$$x = 10 - y$$

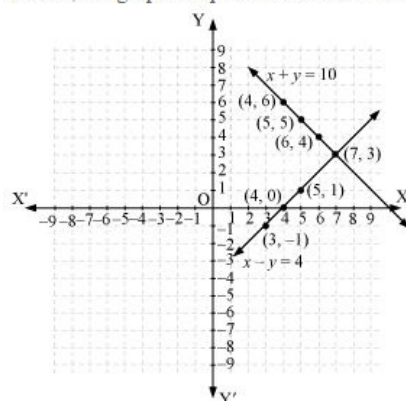
x	5	4	6
y	5	6	4

For $x - y = 4$,

$$x = 4 + y$$

x	5	4	3
y	1	0	-1

Hence, the graphic representation is as follows.



From the figure, it can be observed that these lines intersect each other at point $(7, 3)$.

Therefore, the number of girls and boys in the class are 7 and 3 respectively.

(ii) Let the cost of 1 pencil be Rs x and the cost of 1 pen be Rs y .

According to the question, the algebraic representation is

$$5x + 7y = 50$$

$$7x + 5y = 46$$

For $5x + 7y = 50$,

$$x = \frac{50 - 7y}{5}$$

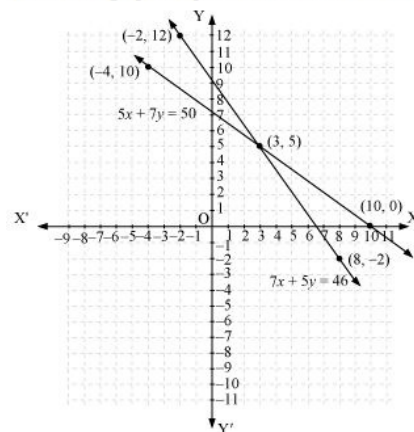
x	3	10	-4
y	5	0	10

$$7x + 5y = 46$$

$$x = \frac{46 - 5y}{7}$$

x	8	3	-2
y	-2	5	12

Hence, the graphic representation is as follows.



From the figure, it can be observed that these lines intersect each other at point (3, 5).

Therefore, the cost of a pencil and a pen are Rs 3 and Rs 5 respectively.

(iii) Let us denote the number of pants by x and the number of skirts by y . Then the equations formed are :

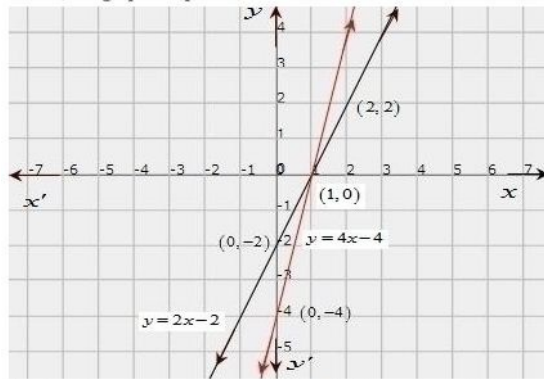
$$y = 2x - 2 \dots (i)$$

$$y = 4x - 4 \dots (ii)$$

The graphs of the equations (i) and (ii) can be drawn by finding two solutions for each of the equations. They are given in the following table.

x	2	0
$y = 2x - 2$	2	-2

Hence, the graphic representation is as follows.



The two lines intersect at the point $(1, 0)$. So, $x = 1, y = 0$ is the required solution of the pair of linear equations, i.e., the number of pants she purchased is 1 and she did not buy any skirt.

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