



Pair of Linear Equations in Two variables Ex 3.4 Q1

**Answer :**

GIVEN:

$$x + 2y + 1 = 0$$

$$2x - 3y - 12 = 0$$

To find: The solution of the systems of equation by the method of cross-multiplication:

By cross multiplication method we get

$$\frac{x}{(2 \times (-12)) - (-3 \times 1)} = \frac{-y}{(1 \times (-12)) - (1 \times 2)} = \frac{1}{(1 \times (-3)) - (2 \times 2)}$$
$$\frac{x}{-24 + 3} = \frac{-y}{-12 - 2} = \frac{1}{-3 - 4}$$
$$\frac{x}{-21} = \frac{-y}{-14} = \frac{1}{-7}$$
$$x = \frac{-21}{-7} = 3$$

$$\text{and } y = \frac{14}{-7} = -2$$

Hence we get the value of  $x = 3$  and  $y = -2$

Pair of Linear Equations in Two variables Ex 3.4 Q2

**Answer :**

GIVEN:

$$3x + 2y + 25 = 0$$

$$2x + y + 10 = 0$$

To find: The solution of the systems of equation by the method of cross-multiplication:

By cross multiplication method we get

$$\frac{x}{(2 \times 10) - (1 \times 25)} = \frac{-y}{(3 \times 10) - (2 \times 25)} = \frac{1}{(3 \times 1) - (2 \times 2)}$$
$$\frac{x}{20 - 25} = \frac{-y}{30 - 50} = \frac{1}{3 - 4}$$
$$\frac{x}{-5} = \frac{-y}{-20} = \frac{1}{-1}$$
$$x = \frac{-5}{-1} = 5$$

$$\text{Also } y = \frac{20}{-1}$$

Hence we get the value of  $x = 5$  and  $y = -20$

Pair of Linear Equations in Two variables Ex 3.4 Q3

**Answer :**

GIVEN:

$$2x + y = 35$$

$$3x + 4y = 65$$

To find: The solution of the systems of equation by the method of cross-multiplication:

Here we have the pair of simultaneous equation

$$2x + y - 35 = 0$$

$$3x + 4y - 65 = 0$$

By cross multiplication method we get

$$\frac{x}{(1 \times (-65)) - (4 \times (-35))} = \frac{-y}{(2 \times (-65)) - (3 \times (-35))} = \frac{1}{(2 \times 4) - (1 \times 3)}$$
$$\frac{x}{-65 + 140} = \frac{-y}{-130 + 105} = \frac{1}{8 - 3}$$
$$\frac{x}{75} = \frac{-y}{-25} = \frac{1}{5}$$
$$x = \frac{75}{5} = 15$$

$$\text{Also } y = \frac{25}{5}$$

Hence we get the value of  $x = 15$  and  $y = 5$

Pair of Linear Equations in Two variables Ex 3.4 Q4

**Answer :**

GIVEN:

$$2x - y = 6$$

$$x - y = 2$$

To find: The solution of the systems of equation by the method of cross-multiplication:

Here we have the pair of simultaneous equation

$$2x - y - 6 = 0$$

$$x - y - 2 = 0$$

By cross multiplication method we get

$$\frac{x}{((-1) \times (-2)) - ((-1) \times (-6))} = \frac{-y}{(2 \times (-2)) - (1 \times (-6))} = \frac{1}{(2 \times (-1)) - (1 \times (-1))}$$
$$\frac{x}{2 - 6} = \frac{-y}{-4 + 6} = \frac{1}{-2 + 1}$$
$$\frac{x}{-4} = \frac{-y}{2} = \frac{1}{-1}$$
$$x = \frac{-4}{-1} = 4$$
$$y = \frac{-2}{-1} = 2$$

Hence we get the value of  $x = 4$  and  $y = 2$

\*\*\*\*\* END \*\*\*\*\*