Pair of Linear Equations in Two varibles 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

$$\frac{x}{(2\times(-12))-(-3\times1)}=\frac{-y}{(1\times(-12))-(1\times2)}=\frac{1}{(1\times(-3))-(2\times2)}$$

$$\frac{x}{-24+3}=\frac{-y}{-12-2}=\frac{1}{-3-4}$$

$$\frac{x}{-21}=\frac{-y}{-14}=\frac{1}{-7}$$

$$x=\frac{-21}{-7}=3$$

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

Hence we get the value of $\boxed{x=3}$ and $\boxed{y=-2}$

Pair of Linear Equations in Two varibles 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

$$\frac{x}{(2\times10)-(1\times25)}=\frac{-y}{(3\times10)-(2\times25)}=\frac{1}{(3\times1)-(2\times2)}$$

$$\frac{x}{20-25}=\frac{-y}{30-50}=\frac{1}{3-4}$$

$$\frac{x}{-5}=\frac{-y}{-20}=\frac{1}{-1}$$

$$x=\frac{-5}{-1}=5$$

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

Hence we get the value of $\boxed{x=5}$ and $\boxed{y=-20}$

Pair of Linear Equations in Two varibles 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

$$\frac{x}{(1\times(-65))-(4\times(-35))} = \frac{-y}{(2\times(-65))-(3\times(-35))} = \frac{1}{(2\times4)-(1\times3)}$$

$$\frac{x}{-65+140} = \frac{-y}{-130+105} = \frac{1}{8-3}$$

$$\frac{x}{75} = \frac{-y}{-25} = \frac{1}{5}$$

$$x = \frac{75}{5} = 15$$

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

Hence we get the value of $\boxed{x = 15}$ and $\boxed{y = 5}$

Pair of Linear Equations in Two varibles 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 $\boxed{x = 4}$ and $\boxed{y = 2}$

********** END **********