Pair of Linear Equations in Two varibles Ex 3.3 Q36

Answer :

The given equations are:

$23x-29y=98 \ \ldots (i)$

$29x-23y=110 \ \ldots (ii)$

Multiply equation (i) by 23 and equation (ii) by 29 and subtract (ii) from (i) we get

$529x-667y=2254$

$\underline{841x-667y=3190}$

$-312x=-936$

$\Rightarrow x=3$

Put the value of x in equation (i), we get

$23\times 3-29y=98$

$\Rightarrow -29y=29$

$\Rightarrow y=-1$

Hence the value of $\boxed{x=3}$ and $\boxed{y=-1}$

Pair of Linear Equations in Two varibles Ex 3.3 Q37

Answer :

The given equations are:

$x-y+z=4 \ \ldots (i)$

$x-2y-2z=9 \ \ldots (ii)$

$2x+y+3z=1 \ \ldots (iii)$

First of all we find the value of x

$x=4+y-z$

Put the value of x in equation (ii), we get

$4+y-z-2y-2z=9$

$\Rightarrow -3z-y=5 \ \ldots (iv)$

Put the value of x and y in equation in (iii) we get

$2(4+y-z)+y+3z=1$

$\Rightarrow 8+2y-2z+y+3z=1$

$\Rightarrow 3y+z=-7 \ \ldots (v)$

Multiply equation (iv) by 3 and add equations (iv) and (v), we get

$-9z-3y=15$

$\underline{3y+z=-7}$

$-8z=8$

$\Rightarrow z=-1$

Put the value of z in equation (v), we get

$3y-1=-7$

$\Rightarrow 3y=-6$

$\Rightarrow y=-2$

Put the value of y and z in equation (i) we get

$x-(-2)-1=4$

$\Rightarrow x=3$

Hence the value of $\boxed{x=3}$, $\boxed{y=-2}$ and $\boxed{z=-1}$.

Pair of Linear Equations in Two varibles Ex 3.3 Q38

Answer :

The given equations are:

$x-y+z=4 \ \ldots (i)$

$x+y+z=2 \ \ldots (ii)$

$2x+y-3z=0 \ \ldots (iii)$

First of all we find the value of x

$x=4+y-z$

Put the value of x in equation (i), we get

$4+y-z+y+z=2$

$\Rightarrow 2y=-2$

$\Rightarrow y=-1$

Put the value of x and y in equation in (iii) we get

$2(4+y-z)+y-3z=0$

$\Rightarrow 8-2-2z-1-3z=0$

$\Rightarrow -5z=-5$

$\Rightarrow z=1$

Put the value of y and z in equation (i), we get

$x-(-1)+1=4$

$\Rightarrow x=2$

Hence the value of $\boxed{x=2}$, $\boxed{y=-1}$ and $\boxed{z=1}$.

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