Linear Equations in Two Variables Ex 13.3 Q20

Answer :

We are given the present age of Ravish as y years and Aarushi as x years.

Age of Ravish seven years ago $= y - 7$

Age of Aarushi seven years ago $= x - 7$

It has already been said by Ravish that seven years ago he was seven times old then Aarushi was then

So,

$y - 7 = 7(x - 7)$

$y - 7 = 7x - 49$

$7x - y = -7 + 49$

$\boxed{7x - y - 42 = 0}$ ......(1)

Age of Ravish three years from now $= y + 3$

Age of Aarushi three years from now $= x + 3$

It has already been said by Ravish that three years from now he will be three times old then Aarushi will be then

So,

$y + 3 = 3(x + 3)$

$y + 3 = 3x + 9$

$3x + 9 - y - 3 = 0$

$\boxed{3x - y + 6 = 0}$ ......(2)

(1) and (2) are the algebraic representation of the given statement.

We are given,

$7x - y - 42 = 0$

We get,

$y = 7x - 42$

Now, substituting $x = 0$ in $y = 7x - 42$, we get

$y = -42$

Substituting $x = 6$ in $y = 7x - 42$, we get

$y = 0$

Thus, we have the following table exhibiting the abscissa and ordinates of points on the line represented by the given equation

x	0	6
y	−42	0

We are given,

$3x - y + 6 = 0$

We get,

$y = 3x + 6$

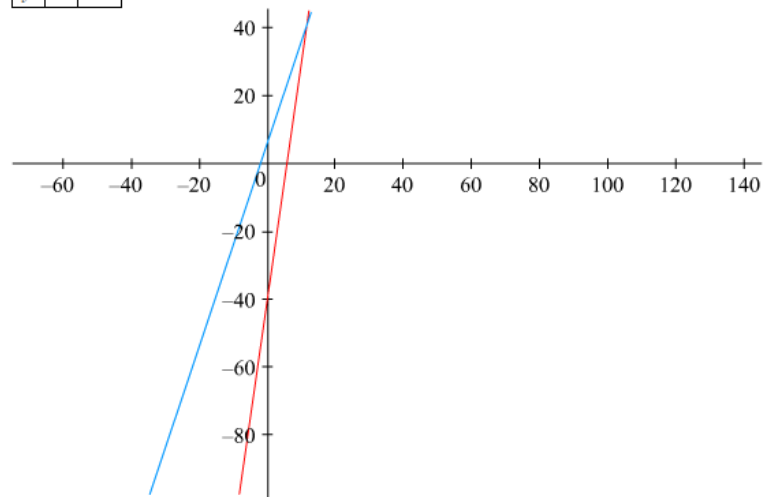Now, substituting $x = 0$ in $y = 3x + 6$, we get

$y = 6$

Substituting $x = -2$ in $y = 3x + 6$, we get

$y = 0$

Thus, we have the following table exhibiting the abscissa and ordinates of points on the line

Thus, we have the following table exhibiting the abscissa and ordinates of points on the line represented by the given equation

x	0	−2
y	6	0

The red -line represents the equation $7x - y - 42 = 0$.

The blue-line represents the equation $3x - y + 6 = 0$.

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