Chapter 5. Analyzing Linear Equations

Ex. 5.5

Answer 1CU.

Consider the x_1 and y_1 point slope form of an equation

Formulae of Point slope form equation

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 are represents the points of a particular line

Here x_1 and y_1 represents the coordinates of any point on the graph of a equation

Answer 2CU.

Need to find the error Tanya and Akira wrote the point slope form of an equation for a line passes through $(-2,-6)$ and $(1,6)$

Tanya says Akira equation is wrong Akira says both are correct who is correct

Tanya equation is $y+6=4(x+2)$

Akira equation is $y-6=4(x-1)$

Now find the who is correct

Given that the points $(-2,-6)$ $(1,6)$

Find the slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$
$$m=\frac{6-(-6)}{1-(-2)}$$
$$m=\frac{6+6}{1+2}$$
$$m=\frac{12}{3}$$
$$m=4$$

And slope $m=4$

Point slope form in the form of $y-y_1=m(x-x_1)$

Substitute the point $(-2,-6)$ in the point slope form then equation we get

$$y-y_1=m(x-x_1)$$
$$y-(-6)=4(x-(-2))$$
$$y+6=4(x+2)$$

Substitute the point $(1,6)$ in the point slope form then equation we get

$$y-y_1=m(x-x_1)$$
$$y-6=4(x-1)$$

Hence the required solution Akira says they are both correct is correct both the point slope form of an equation for a line passes through the point

Answer 3CU.

Need to write an equation in point slope form and write the point same line in the slope intercept form

First we need to find the point slope form equation

Assume that the point $(-1,2)$

And slope $m=4$

Formulae of point slope form $y-y_1=m(x-x_1)$

Solve the equation we get

$$y-y_1=m(x-x_1)$$
$$y-2=4(x+1)$$

Now we find the slope intercept form

$$y-y_1=m(x-x_1)$$
$$y-2=4(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-2=4x+4$$
$$y-2+2=4x+4+2 \qquad \text{Adding 2 on both sides}$$
$$y=4x+6$$

Hence the required slope-intercept form equation is $\boxed{y=4x+6}$

Answer 4CU.

Need to find the point slope form of an equation for a line that passes through the each point with the given slope

Consider the point $(1,3)$

And the slope $m=-2$

Formulae of point slope from $y-y_1=m(x-x_1)$

Solve the equation

$$y-y_1=m(x-x_1)$$
$$y-3=-2(x-1)$$

Hence the required solution of point slope form of an equation for a line passes through each point with the given slope $\boxed{y-3=-2(x-1)}$

Answer 5CU.

Need to find the point slope form of an equation for a line that passes through the each point with the given slope

Consider the point $(-1,-2)$

And the slope $m=3$

Formulae of point slope from $y-y_1=m(x-x_1)$

Solve the equation

$$y-y_1=m(x-x_1)$$
$$y-(-2)=3(x-(-1))$$
$$y+2=3(x+1)$$

Hence the required solution of point slope form of an equation for a line passes through each point with the given slope $\boxed{y+2=3(x+1)}$

Answer 6CU.

Need to find the point slope form of an equation for a line that passes through the each point with the given slope

Consider the point $(2,-2)$

And the slope $m=0$

Formulae of point slope from $y-y_1=m(x-x_1)$

Solve the equation

$$y-y_1=m(x-x_1)$$
$$y-(-2)=0(x-2)$$
$$y+2=0$$

Hence the required solution of point slope form of an equation for a line passes through each point with the given slope $\boxed{y+2=0}$

Answer 7CU.

Consider the equation is $y-5=4(x+2)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y-5=4(x+2)$$
$$y-5=4x+8 \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-y-8-5=4x+8-y-8 \qquad \text{Adding } -y-8 \text{ on both sides}$$
$$-13=4x-y$$
$$4x-y=-13$$

Hence the required standard equation is $\boxed{4x-y=-13}$

Answer 8CU.

Consider the equation is $y+3=-\frac{3}{4}(x-1)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y+3=-\frac{3}{4}(x-1)$$

$4(y+3)=4\left(-\frac{3}{4}\right)(x-1)$ Multiply 4 to eliminate the fraction

$4y+12=-3(x-1)$ Distributive property $a(b+c)=ab+ac$

$4y+12=-3x+3$

$4y+12-12=-3x+3-12$ Adding -12 on both sides

By simplification we get

$$4y=-3x-9$$

$3x+4y=-3x+3x-9$ Add $3x$ on both sides

$3x+4y=-9$

Hence the required standard equation is $\boxed{3x+4y=-9}$

Answer 9CU.

Consider the equation is $y-3=2.5(x+1)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$y-3=2.5(x+1)$

$y-3=2.5x+2.5$ By distributive property $a(b+c)=ab+ac$

$y-3-2.5x+3=2.5x-2.5x+3+2.5$ Adding $-2.5x+3$ to each side

$y-2.5x=2.5+3$

By simplification we get

$2.5x-y=-5.5$ Multiply -1 on both sides

$2.5x\times 2-2(y)=2\times -5.5$ Multiply 2 on both sides

$5x-2y=-11$

Hence the required standard form equation is $\boxed{5x-2y=-11}$

Answer 10CU.

Consider the equation is $y+6=2(x-2)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$y+6=2(x-2)$

$y+6=2(x)+2(-2)$ By distributive property $a(b+c)=ab+ac$

$y+6=2x-4$

$y+6-6=2x-4-6$ Adding -6 on both sides

By simplification we get

$y+0=2x-10$

$y=2x-10$

Hence the required slope intercept equation is $\boxed{y=2x-10}$

Answer 11CU.

Consider the equation $y+3=-\frac{2}{3}(x-6)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y+3=-\frac{2}{3}(x-6)$$

$$y+3=-\frac{2}{3}(x)+\frac{12}{3} \qquad \text{By distributive property } a(b+c)=ab+ac$$

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

By simplification we get

$$y+3-3=-\frac{2}{3}x+4-3 \qquad \text{Adding } -3 \text{ on both sides}$$

$$y+0=-\frac{2}{3}x+1$$

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

Hence the required slope intercept equation is $\boxed{y=-\frac{2}{3}x+1}$

Answer 12CU.

Consider the equation is $y-\frac{7}{2}=\frac{1}{2}(x-4)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y-\frac{7}{2}=\frac{1}{2}(x-4)$$

$$y-\frac{7}{2}=\frac{1}{2}(x)-\frac{4}{2} \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-\frac{7}{2}=\frac{1}{2}x-2$$

By simplification we get

$$y-\frac{7}{2}+\frac{7}{2}=\frac{1}{2}x-2+\frac{7}{2} \qquad \text{Adding } \frac{7}{2} \text{ on both sides}$$

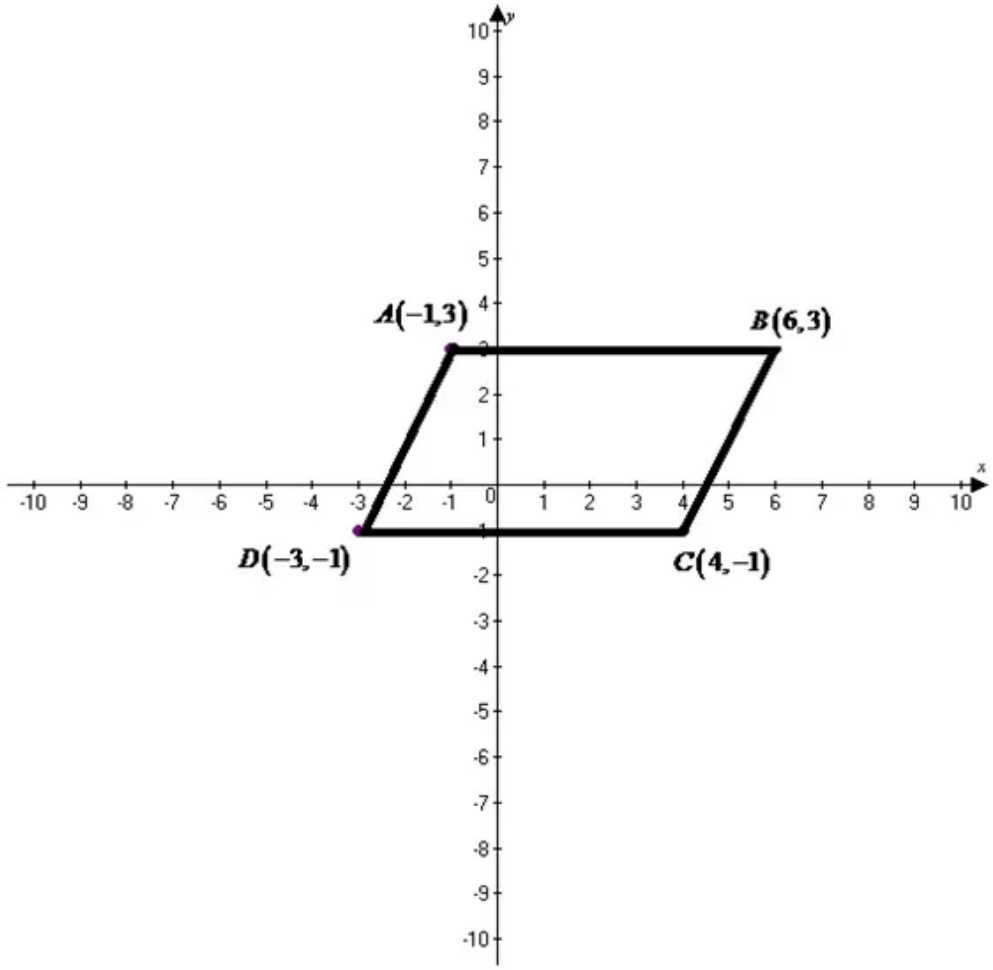
$$y+0=\frac{1}{2}x+\frac{3}{2}$$

$$y=\frac{1}{2}x+\frac{3}{2}$$

Hence the required slope intercept equation is $\boxed{y=\frac{1}{2}x+\frac{3}{2}}$

Answer 13CU.

Consider the parallelogram $ABCD$



Need to write the point-slope form of the line containing $\overline{AD}$

Consider the point is $A=(-1,3)$ and $D=(-3,-1)$

And slope is $m=\dfrac{y_2-y_1}{x_2-x_1}$

Substituting the values we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{(-1)-(3)}{(-3)-(-1)}$$

$$m=\frac{-4}{-2}$$

$$m=2$$

Formulae for the point slope form $y-y_1=m(x-x_1)$

Substituting the values we get

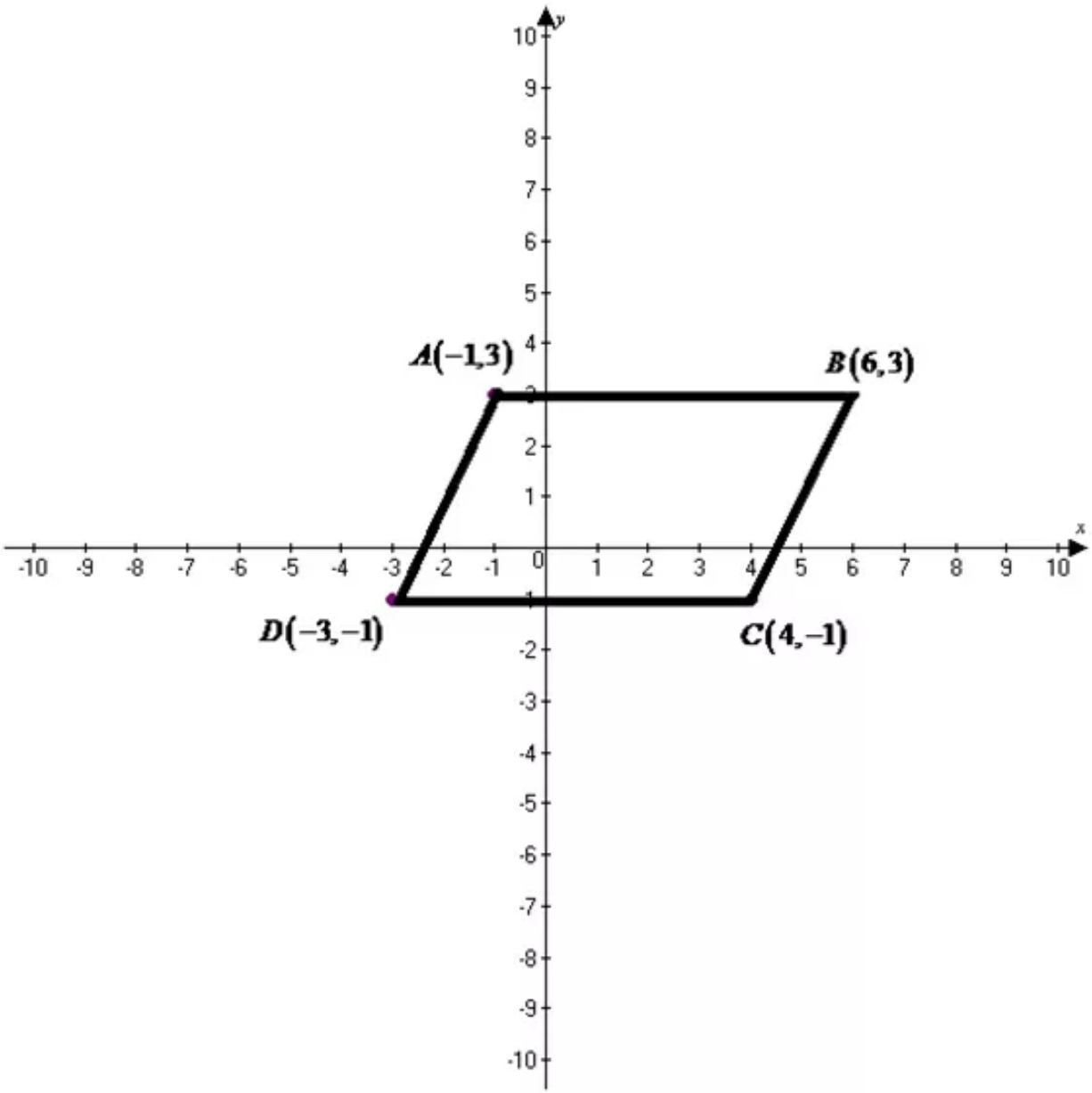
$$y-3=2(x-(-1))$$

$$y-3=2(x+1)$$ By distributive property $a(b+c)=ab+ac$

Hence the required point-slope form equation is $\boxed{y-3=2(x+1)}$

Answer 14CU.

Consider the parallelogram



Need to write the standard form of the line containing $\overline{AD}$

Consider the point is $A=(-1,3)$ and $D(-3,-1)$

And slope is $m=\frac{y_2-y_1}{x_2-x_1}$

Substituting the values we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$
$$m=\frac{(-1)-(3)}{(-3)-(-1)}$$
$$m=\frac{-4}{-2}$$
$$m=2$$

Hence the slope is $m=2$

Formulae for the point slope form $Ax+By=C$

Substituting the values we get

$$y-3=2(x-(-1))$$
$$y-3=2x+2 \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-3-y-2=2x+2-y-2 \qquad \text{Adding } -y-2 \text{ on both sides}$$
$$-5=2x-y$$
$$2x-y=-5$$

Hence the required point-slope form equation is $\boxed{2x-y=-5}$

Answer 15PA.

Consider the given point is $(3,8)$ and slope is $m=2$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=3$ and $y_1=8$ and $m=2$

Now substituting these values in $y-y_1=m(x-x_1)$

$$y-y_1=m(x-x_1) \qquad \text{Point-slope form}$$
$$y-8=2(x-3) \qquad \text{Replace } y_1=8, x_1=3 \text{ and } m=2$$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-8=2(x-3)}$

Answer 16PA.

Consider the point $(-4,-3)$ and the slope is $m=1$

Need to write the point slope form of equation for a line passes though each point with the given slope

Formulae of point slope form of equation for a line passes though each point with the given slope

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 are represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=-4$ and $y_1=-3$ and $m=1$

Now substitute the values in the formulae

$y-y_1=m(x-x_1)$ point slope form

$y-(-3)=1(x-(-4))$ Replace the values $x=-4$ and $y=-3$

$y+3=1(x+4)$

Hence the point slope form of equation for a line passes through each point with the given slope is $\boxed{y+3=1(x+4)}$

Answer 17PA.

Consider the given point is $(-2,4)$ and slope is $m=-3$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=-2$ and $y_1=4$ and $m=-3$

Now substituting these values in $y-y_1=m(x-x_1)$

$y-y_1=m(x-x_1)$ Point-slope form

$y-4=-3(x-(-2))$ Replace $y_1=4, x_1=-2$ and $m=-3$

$y-4=-3(x+2)$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-4=-3(x+2)}$

Answer 18PA.

Consider the given point is $(-6,1)$ and slope is $m=-4$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=-6$ and $y_1=1$ and $m=4$

Now substituting these values in $y-y_1=m(x-x_1)$

$y-y_1=m(x-x_1)$ Point-slope form

$y-1=-4(x-(-6))$ Replace $y_1=1\,x_1=-6$ and $m=-4$

$y-1=-4(x+6)$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-1=-4(x+6)}$

Answer 19PA.

Consider the given point is $(-3,6)$ and slope is $m=0$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=-3$ and $y_1=6$ and $m=0$

Now substituting these values in $y-y_1=m(x-x_1)$

$y-y_1=m(x-x_1)$ Point-slope form

$y-6=0(x-(-3))$ Replace $y_1=6\,x_1=-3$ and $m=0$

$y-6=0$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-6=0}$

Answer 20PA.

Consider the given point is $(9,1)$ and slope is $m=\frac{2}{3}$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=9$ and $y_1=1$ and $m=\frac{2}{3}$

Now substituting these values in $y-y_1=m(x-x_1)$

$y-y_1=m(x-x_1)$ Point-slope form

$y-1=\frac{2}{3}(x-(9))$ Replace $y_1=1\,x_1=9$ and $m=\frac{2}{3}$

$y-1=\frac{2}{3}(x-9)$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-1=\frac{2}{3}(x-9)}$

Answer 21PA.

Consider the given point is $(8,-3)$ and slope is $m=\frac{3}{4}$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=8$ and $y_1=-3$ and $m=\frac{3}{4}$

Now substituting these values in $y-y_1=m(x-x_1)$

$y-y_1=m(x-x_1)$ Point-slope form

$y-(-3)=\frac{3}{4}(x-8)$ Replace $y_1=-3\;x_1=8$ and $m=\frac{3}{4}$

$y+3=\frac{3}{4}(x-8)$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y+3=\frac{3}{4}(x-8)}$

Answer 22PA.

Consider the given point is $(-6,3)$ and slope is $m=-\frac{2}{3}$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=-6$ and $y_1=3$ and $m=-\frac{2}{3}$

Now substituting these values in $y-y_1=m(x-x_1)$

$y-y_1=m(x-x_1)$ Point-slope form

$y-3=-\frac{2}{3}(x-(-6))$ Replace $y_1=3$ $x_1=-6$ and $m=-\frac{2}{3}$

$y-3=-\frac{2}{3}(x+6)$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-3=-\frac{2}{3}(x+6)}$

Answer 23PA.

Consider the given point is $(1,-3)$ and slope is $m=-\frac{5}{8}$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=1$ and $y_1=-3$ and $m=-\frac{5}{8}$

Now substituting these values in $y-y_1=m(x-x_1)$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y+3=-\frac{5}{8}(x-1)}$

Answer 24PA.

Consider the given point is $(9,-5)$ and slope is $m=0$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=9$ and $y_1=-5$ and $m=0$

Now substituting these values in $y-y_1=m(x-x_1)$

$$y-y_1=m(x-x_1) \qquad \text{Point-slope form}$$
$$y-(-5)=0(x-9) \qquad \text{Replace } y_1=-5,\ x_1=9 \text{ and } m=0$$
$$y+5=0$$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y+5=0}$

Answer 25PA.

Consider the given point is $(-4,8)$ and slope is $m=\frac{7}{2}$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=-4$ and $y_1=8$ and $m=\frac{7}{2}$

Now substituting these values in $y-y_1=m(x-x_1)$

$$y-y_1=m(x-x_1) \qquad \text{Point-slope form}$$
$$y-8=\frac{7}{2}(x-(-4)) \qquad \text{Replace } y_1=8,\ x_1=-4 \text{ and } m=\frac{7}{2}$$
$$y-8=\frac{7}{2}(x+4)$$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y-8=\frac{7}{2}(x+4)}$

Answer 26PA.

Consider the given point is $(1,-4)$ and slope is $m=-\frac{8}{3}$

Need to write the point-slope form of an equation for a line that passes through the give point and the slope

Formulae for point-slope form of an equation that passes through the point and the slope is given by

$$y-y_1=m(x-x_1)$$

Here x_1 and y_1 represents the given point

And m represents the slope of the given equation or a line

Let us take $x_1=1$ and $y_1=-4$ and $m=-\frac{8}{3}$

Now substituting these values in $y-y_1=m(x-x_1)$

$$y-y_1=m(x-x_1) \qquad \text{Point-slope form}$$

$$y-(-4)=-\frac{8}{3}(x-1) \qquad \text{Replace } y_1=-4,\ x_1=1 \text{ and } m=-\frac{8}{3}$$

$$y+4=-\frac{8}{3}(x-1)$$

Hence the required point-slope form of an equation for a line that passes through the given point and the slope is $\boxed{y+4=-\frac{8}{3}(x-1)}$

Answer 27PA.

Need to find the point-slope form of an equation for a horizontal line that passes through

Consider the point is $(5,-9)$

And slope is $m=0$

Formulae for the point slope form $y-y_1=m(x-x_1)$

Substituting the values we get

$$y-y_1=m(x-x_1) \qquad \text{point slope form}$$

$$(y-(-9))=0(x-5) \qquad x_1=5 \text{ and } y_1=-9,\ m=0$$

$$y+9=0$$

Hence the required point-slope form equation is horizontal line passes through $\boxed{y+9=0}$

Answer 28PA.

Need to find the point-slope form of an equation for a horizontal line passes through

Consider the point is $(0,7)$

And slope is $m=0$

Formulae for the point slope form $y-y_1=m(x-x_1)$

Substituting the values we get

$$\begin{aligned} y-y_1&=m(x-x_1) && \text{point slope form}\\ y-7&=0(x-0) && x_1=0 \quad y_1=7 \quad m=0\\ y-7&=0 \end{aligned}$$

Hence the required the horizontal line passes through point-slope form equation is $\boxed{y-7=0}$

Answer 29PA.

Consider the equation is $y-13=4(x-2)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$\begin{aligned} y-13&=4(x-2)\\ y-13&=4x-8 && \text{By distributive property } a(b+c)=ab+ac\\ y-y+8-13&=4x-8-y+8 && \text{Adding } -y+8 \text{ on both sides}\\ -5&=4x-y\\ 4x-y&=-5 \end{aligned}$$

Hence the required standard equation is $\boxed{4x-y=-5}$

Answer 30PA.

Consider the equation is $y+3=3(x+5)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$\begin{aligned} y+3&=3(x+5)\\ y+3&=3x+15 && \text{By distributive property } a(b+c)=ab+ac\\ y-y-15+3&=3x+15-y-15 && \text{Adding } -y-15 \text{ on both sides}\\ 12&=3x-y\\ 3x-y&=12 \end{aligned}$$

Hence the required standard equation is $\boxed{3x-y=12}$

Answer 31PA.

Need to find the equation in standard form

Consider the equation is $y-5=-2(x+6)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y-5=-2(x+6)$$
$$y-5=-2x-12 \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-y+12-5=-2x-12-y+12 \qquad \text{Adding } -y+12 \text{ on both sides}$$
$$7=-2x-y \qquad \text{Multiply -1 on both sides}$$
$$2x+y=-7$$

Hence the required standard equation is $\boxed{2x+y=-7}$

Answer 32PA.

Consider the equation is $y+3=-5(x+1)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y+3=-5(x+1)$$
$$y+3=-5x-5 \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-y+5+3=-5x-5-y+5 \qquad \text{Adding } -y+5 \text{ on both sides}$$
$$8=-5x-y \qquad \text{Multiply } -1 \text{ on both sides}$$
$$5x+y=-8$$

Hence the required standard equation is $\boxed{5x+y=-8}$

Answer 33PA.

Consider the equation is $y+7=\frac{1}{2}(x+2)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y+7=\frac{1}{2}(x+2)$$
$$2(y+7)=2\left(\frac{1}{2}\right)(x+2) \qquad \text{Multiply 2 to eliminate the fraction}$$
$$2y+14=1(x+2)$$
$$2y+14=x+2$$

By simplification we get

$$2y=x+2-14$$
$$2y=x-12 \qquad \text{subtract } x \text{ from each side}$$
$$-x+2y=-12 \qquad \text{multiply each side by } -1$$
$$x-2y=12$$

Hence the required standard equation is $\boxed{x-2y=12}$

Answer 34PA.

Consider the equation is $y-1=\frac{5}{6}(x-4)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y-1=\frac{5}{6}(x-4)$$

$$6(y-1)=6\left(\frac{5}{6}\right)(x-4) \qquad \text{Multiply each side by 6}$$

$$6y-6=5(x-4)$$

$$6y-6=5x-20$$

By simplification we get

$$6y=5x-20+6$$

$$6y=5x-14 \qquad \text{Subtract 5x from each side}$$

$$-5x+6y=-14 \qquad \text{Multiply each side by } -1$$

$$5x-6y=14$$

Hence the required standard equation is $\boxed{5x-6y=14}$

Answer 35PA.

Consider the equation is $y-2=-\frac{2}{5}(x-8)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y-2=-\frac{2}{5}(x-8)$$

$$5(y-2)=5\left(-\frac{2}{5}\right)(x-8) \qquad \text{Multiply each side by 6}$$

$$5y-10=-2(x-8)$$

$$5y-10=-2x+16$$

By simplification we get

$$5y=-2x+16+10$$

$$5y+2x=-2x+2x+26 \qquad \text{Add 2x from each side}$$

$$2x+5y=26$$

Hence the required standard equation is $\boxed{2x+5y=26}$

Answer 36PA.

Consider the equation is $y+4=-\frac{1}{3}(x-12)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y+4=-\frac{1}{3}(x-12)$$

$3(y+4)=3\left(-\frac{1}{3}\right)(x-12)$ Multiply each side by 3

$3y+12=-1(x-12)$

$3y+12=-x+12$ Adding -12 on both sides

$3y+12-12=-x+12-12$

By simplification we get

$3y+0=-x+0$

$3y+x=-x+x+0$ Adding x on both sides

$x+3y=0$

Hence the required standard equation is $\boxed{x+3y=0}$

Answer 37PA.

Consider the equation is $y+2=\frac{5}{3}(x+6)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y+2=\frac{5}{3}(x+6)$$

$3(y+2)=3\left(\frac{5}{3}\right)(x+6)$ Multiply each side by 3

$3y+6=5(x+6)$

$3y+6=5x+30$

By simplification we get

$3y+6-6=5x+30-6$ Adding -6 on both sides

$3y=5x+24$

$-5x+3y=5x-5x+24$ Add $-5x$ from each side

$-5x+3y=24$ Multiply -1 on both sides

$5x-3y=-24$

Hence the required standard equation is $\boxed{5x-3y=-24}$

Answer 38PA.

Consider the equation is $y+6=\frac{3}{2}(x-4)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y+6=\frac{3}{2}(x-4)$$

$2(y+6)=2\left(\frac{3}{2}\right)(x-4)$ Multiply each side by 2

$$2y+12=3(x-4)$$

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

By simplification we get

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

$$2y=3x-24$$

$-3x+2y=3x-3x-24$ Add $-3x$ from each side

$-3x+2y=-24$ Multiply -1 each side

$$3x-2y=24$$

Hence the required standard equation is $\boxed{3x-2y=24}$

Answer 39PA.

Consider the equation is $y-6=1.3(x+7)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y-6=1.3(x+7)$$

$y-6=1.3x+9.1$ By distributive property $a(b+c)=ab+ac$

$y-6-1.3x+6=1.3x-1.3x+6+9.1$ Adding $-1.3x+6$ to each side

$$y-1.3x=9.1+6$$

By simplification we get

$-13x+y=15.1$ Multiply -1 on both sides

$1.3x\times10-10\times y=-15.1\times10$ Multiply 10 on both sides

$$13x-10y=-151$$

Hence the required standard equation is $\boxed{13x-10y=-151}$

Answer 40PA.

Consider the equation is $y-2=-2.5(x-1)$

Standard form of equation is in the form of $Ax+By=C$

Solve the equation we get

$$y-2=-2.5(x-1)$$

$$y-2=-2.5x+2.5 \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-2+2.5x+2=-2.5x+2.5x+2+2.5 \qquad \text{Adding } -1.3x+6 \text{ to each side}$$

$$y\times 10+2.5x\times 10=2.5+2\times 10 \qquad \text{Multiply 10 on both sides}$$

$$25x+10y=45$$

Hence the required standard equation is $\boxed{25x+10y=45}$

Answer 41PA.

Consider the equation is $y-2=3(x-1)$

Slope intercept in the form of $y=mx+b$

Here m represents the slope of the given line

And b represents the y-intercept

Solve the equation we get

$$y-2=3(x)+3(-1) \qquad \text{By distributive property } a(a+c)=ab+ac$$

$$y-2=3x-3$$

$$y-2+2=3x-3+2 \qquad \text{Adding 2 on both sides}$$

$$y+0=3x-1$$

$$y=3x-1$$

Hence the required slope intercept equation is $\boxed{y=3x-1}$

Answer 42PA.

Consider the equation is $y-5=6(x+1)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y-5=6(x)+6(1) \qquad \text{By distributive property } a(a+c)=ab+ac$$

$$y-5=6x+6$$

$$y-5+5=6x+6+5 \qquad \text{Adding 5 on both sides}$$

$$y+0=6x+11$$

$$y=6x+11$$

Hence the required slope intercept equation is $\boxed{y=6x+11}$

Answer 43PA.

Consider the equation is $y+2=-2(x-5)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y+2=-2(x)-2(-5) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y+2=-2x+10$$
$$y+2-2=-2x+10-2 \qquad \text{Adding } -2 \text{ on both sides}$$
$$y+0=-2x+8$$
$$y=-2x+8$$

Hence the required slope intercept equation is $\boxed{y=-2x+8}$

Answer 44PA.

Consider the equation is $y-1=-7(x-3)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y-1=-7(x)-7(-3) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-1=-7x-21$$
$$y-1+1=-7x+21+1 \qquad \text{Adding 1 on both sides}$$
$$y+0=-7x+22$$
$$y=-7x+22$$

Hence the required slope intercept equation is $\boxed{y=-7x+22}$

Answer 45PA.

Consider the equation is $y+3=\frac{1}{2}(x+4)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y+3=\frac{1}{2}(x+4)$$
$$y+3=\frac{1}{2}(x)+\frac{4}{2} \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y+3=\frac{1}{2}x+2$$

By simplification we get

$$y+3-3=\frac{1}{2}x+2-3 \qquad \text{Adding -3 on both sides}$$
$$y+0=\frac{1}{2}x-1$$
$$y=\frac{1}{2}x-1$$

Hence the required slope intercept equation is $\boxed{y=\frac{1}{2}x-1}$

Answer 46PA.

Consider the equation is $y-1=\frac{2}{3}(x+9)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y-1=\frac{2}{3}(x)+\frac{18}{3}$$ By distributive property $a(b+c)=ab+ac$

$$y-1=\frac{2}{3}x+6$$

$$y-1+1=\frac{2}{3}x+6+1$$ Adding 1 on both sides

$$y+0=\frac{2}{3}x+7$$

$$y=\frac{2}{3}x+7$$

Hence the required slope intercept equation is $\boxed{y=\frac{2}{3}x+7}$

Answer 47PA.

Consider the equation is $y+3=-\frac{1}{4}(x+2)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y+3=-\frac{1}{4}(x)-\frac{2}{4}$$ By distributive property $a(b+c)=ab+ac$

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

$$y+3-3=-\frac{1}{4}x-\frac{1}{2}-3$$ Adding -3 on both sides

$$y+0=-\frac{1}{4}x-\frac{7}{2}$$

$$y=-\frac{1}{4}x-\frac{7}{2}$$

Hence the required slope intercept equation is $\boxed{y=-\frac{1}{4}x-\frac{7}{2}}$

Answer 48PA.

Consider the equation is $y-5=-\frac{2}{5}(x+15)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y-5=-\frac{2}{5}(x)-\frac{30}{5}$$ By distributive property $a(b+c)=ab+ac$

$$y-5=-\frac{2}{5}x-6$$

$$y-5+5=-\frac{2}{5}x-6+5$$ Adding 5 on both sides

$$y+0=-\frac{2}{5}x-1$$

$$y=-\frac{2}{5}x-1$$

Hence the required slope intercept equation is $\boxed{y=-\frac{2}{5}x-1}$

Answer 49PA.

Consider the equation is $y+\frac{1}{2}=\left(x-\frac{1}{2}\right)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y+\frac{1}{2}=\left(x-\frac{1}{2}\right)$$

$$y+\frac{1}{2}-\frac{1}{2}=x-\frac{1}{2}-\frac{1}{2}$$ Adding $-\frac{1}{2}$ on both sides

$$y+0=x-1$$

$$y=x-1$$

Hence the required slope intercept equation is $\boxed{y=x-1}$

Answer 50PA.

Consider the equation is $y-\frac{1}{3}=-2\left(x+\frac{1}{3}\right)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y-\frac{1}{3}=-2(x)-\frac{2}{3}$$ By distributive property $a(b+c)=ab+ac$

$$y-\frac{1}{3}+\frac{1}{3}=-2x-\frac{2}{3}+\frac{1}{3}$$ Adding $\frac{1}{3}$ on both sides

$$y+0=-2x-\frac{1}{3}$$

$$y=-2x-\frac{1}{3}$$

Hence the required slope intercept equation is $\boxed{y=-2x-\frac{1}{3}}$

Answer 51PA.

Consider the equation in slope intercept form $y+\frac{1}{4}=-3\left(x+\frac{1}{2}\right)$

Formulae of slope intercept form $y=mx+b$

Solve the equation we get

$$y+\frac{1}{4}=-3\left(x+\frac{1}{2}\right)$$

$$y+\frac{1}{4}=-3x-\frac{3}{2}$$ By distributive property $a(b+c)=ab+ac$

$$y+\frac{1}{4}-\frac{1}{4}=-3x-\frac{3}{2}-\frac{1}{4}$$ Adding $-\frac{1}{4}$ on both sides

$$y=-3x-\frac{7}{4}$$

Hence then required the equation slope intercept form $\boxed{y=-3x-\frac{7}{4}}$

Answer 52PA.

Consider the equation is $y+\frac{3}{5}=-4\left(x-\frac{1}{2}\right)$

Slope intercept in the form of $y=mx+b$

Solve the equation we get

$$y+\frac{3}{5}=-4\left(x-\frac{1}{2}\right)$$

$$y+\frac{3}{5}=-4(x)+\frac{4}{2} \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y+\frac{3}{5}=-4x+2$$

By simplification we get

$$y+\frac{3}{5}-\frac{3}{5}=-4x+2-\frac{3}{5} \qquad \text{Adding } -\frac{3}{5} \text{ on both sides}$$

$$y=-4x+\frac{7}{5}$$

Hence the required slope intercept equation is $\boxed{y=-4x+\frac{7}{5}}$

Answer 53PA.

Point slope form

Need to find the point slope form an equation for a line passes through given point and slope

Consider the point $(5,-3)$

And slope $m=10$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values we get

$$y-y_1=m(x-x_1)$$
$$y-(-3)=10(x-5)$$
$$y+3=10(x-5)$$

Hence required equation line passes through point slope form is $\boxed{y+3=10(x-5)}$

Slope intercept form

Need to find the slope intercept form an equation line passes through the given point and slope

Consider the point $(5,-3)$

And slope $m=10$

Slope- intercepts equation in the form of $y=mx+b$

$$y-y_1=m(x-x_1)$$
$$y-(-3)=10(x-5)$$
$$y+3=10(x-5) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y+3=10x-50$$

By simplification we get

$y+3-3=10x-50-3$ Adding -3 on both sides

$y=10x-53$

Hence the required an equation for a line passes through slope intercept form $\boxed{y=10x-53}$

Standard form

Need to find the standard form of equation for a line passes through to the given point and slope

Consider the point $(5,-3)$

And slope $m=10$

Standard form equation is in the form of $Ax+By=C$

$y-(-3)=10(x-5)$

$y+3=10(x-5)$

$y+3-y+50=10x-50+50-y$ Adding $-y+50$ on both sides

$53=10x-y$

$10x-y=53$

Hence the required standard form of equation line passes through $\boxed{10x-y=53}$

Answer 54PA.

Point-slope form

Need to find the l line passes through point slope form of an equation for line

Consider the l line passes through point $(1,-6)$

And slope $m=\frac{3}{2}$

Point slope form in the form of $y-y_1-m(x-x_1)$

$$y-(-6)=\frac{3}{2}(x-1)$$

$$y+6=\frac{3}{2}(x-1)$$

Hence the required l line passes through point slope form equation $\boxed{y+6=\frac{3}{2}(x-1)}$

Slope intercept form

Need to find the l line passes through slope intercept form of an equation for line

Consider the l line passes through point $(1,-6)$

And slope $m=\frac{3}{2}$

Slope intercepts form in form of $y=mx+b$

Solve the equation we get

$$y-(-6)=\frac{3}{2}(x-1)$$

$$y+6=\frac{3}{2}(x-1)$$

$$y+6=\frac{3}{2}x-\frac{3}{2} \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y+6-6=\frac{3}{2}x-\frac{3}{2}-6 \qquad \text{Adding } -6 \text{ on both sides}$$

$$y=\left(\frac{3}{2}\right)x-\frac{15}{2}$$

Hence required l line passes through slope intercept form equation is $\boxed{y=\left(\frac{3}{2}\right)x-\frac{15}{2}}$

Standard form

Need to find l line passes through standard form of an equation for line

And slope $m=\frac{3}{2}$

Standard form equation in the form of $Ax+By=C$

Solve the equation we get

$$y-(-6)=\frac{3}{2}(x-1)$$

$$y+6=\frac{3}{2}(x-1)$$

$2(y+6)=2\left(\frac{3}{2}\right)(x-1)$ Multiply 2 on both sides

$$2(y+6)=3(x-1)$$

By simplification we get

$2y+12=3x-3$ By distributive property $a(b+c)=ab+ac$

$2y-2y+3+12=3x-3+3-2y$ Adding $-2y+3$ on both sides

$$15=3x-2y$$

$$3x-2y=15$$

Hence the required l line passes through standard form equation $\boxed{3x-2y=15}$

Answer 55PA.

Given that the home security systems for \$ 5 per week plus installation fee and the fee for 12 weeks of service is \$ 210

Need to write the point slope form of an equation and find the total fee y for any number of weeks x

Point slope form in the form of $y-y_1=m(x-x_1)$

The values of $x_1=12$ and $y_1=210$ $m=5$

Now substitute the values in point slope form equation

$$y-y_1=m(x-x_1)$$

$y-210=5(x-12)$ By distributive property $a(b+c)=ab+ac$

$$y-210=5x-60$$

Hence required solution point slope form equation $\boxed{y-210=5x-60}$

Answer 56PA.

Given that the home security systems for $\$\ 5$ per week plus installation fee and the fee for 12 weeks of service is $\$\ 210$

Need to write the point slope form of an equation and find the total fee y for any number of weeks x

Point slope form in the form of $y = mx + b$

The values of $x_1 = 12$ and $y_1 = 210$ $m = 5$

Now substitute the values in point slope form equation

$$\begin{aligned} y - y_1 &= m(x - x_1) \\ y - 210 &= 5(x - 12) && \text{By distributive property } a(b+c) = ab + ac \\ y - 210 &= 5x - 60 \\ y - 210 + 210 &= 5x - 60 + 210 && \text{Adding 210 on both sides} \\ y &= 5x + 150 \end{aligned}$$

Hence required solution point slope form equation $\boxed{y = 5x + 150}$

Answer 57PA.

Given that the home security systems for $\$\ 5$ per week plus installation fee and the fee for 12 weeks of service is $\$\ 210$

Need to write the point slope form of an equation and find the total fee y for any number of weeks x

Point slope form in the form of $y = mx + b$

The values of $x_1 = 12$ and $y_1 = 210$ $m = 5$

Now substitute the values in point slope form equation

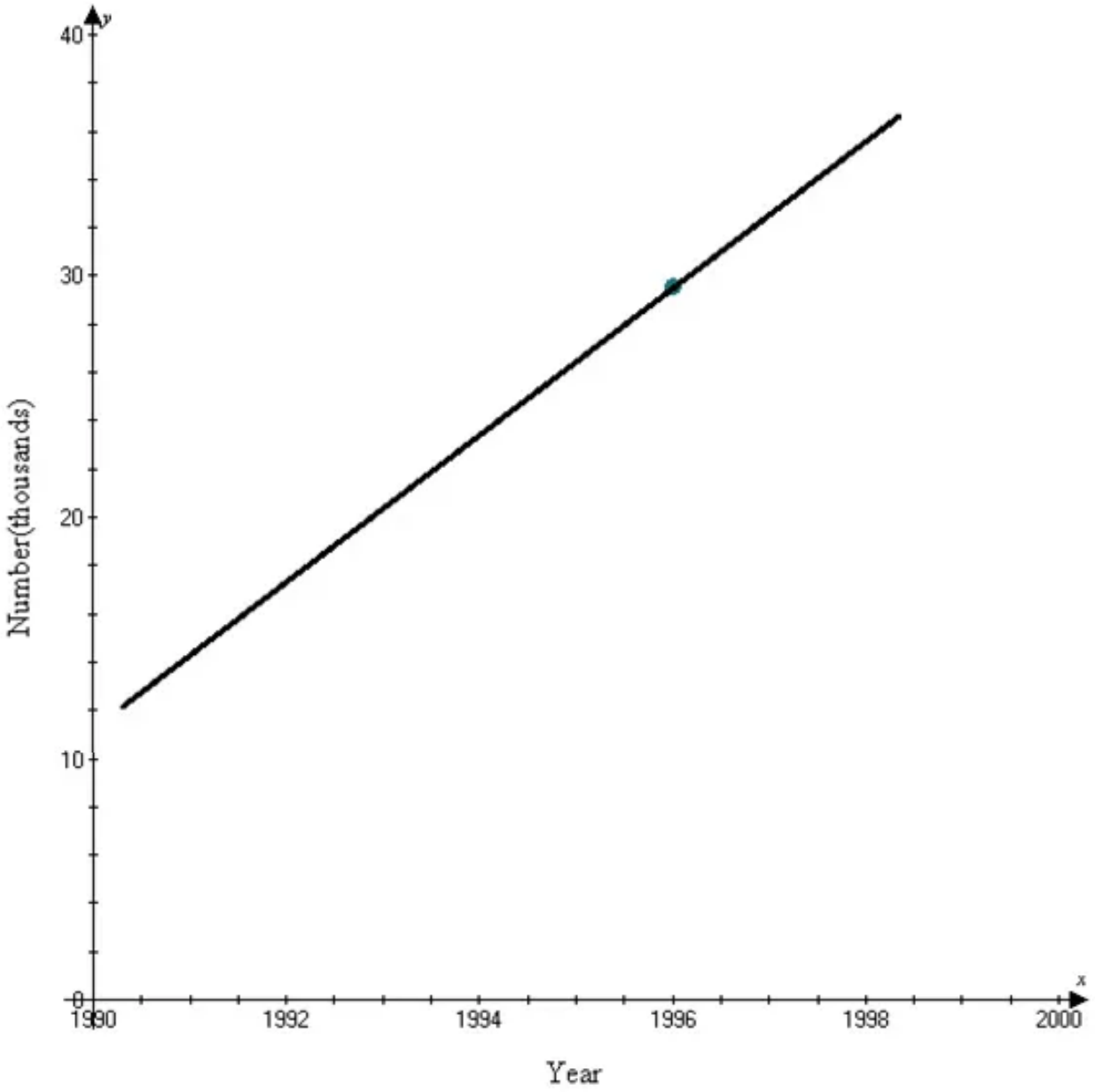
$$\begin{aligned} y - y_1 &= m(x - x_1) \\ y - 210 &= 5(x - 12) && \text{By distributive property } a(b+c) = ab + ac \\ y - 210 + 210 &= 5x - 60 + 210 && \text{Adding 210 on both sides} \\ y &= 5x + 150 \end{aligned}$$

Here the equation is $y = 5x + 150$ and the flat fee is of this equation is 150

Hence the required solution of the flat fee installation of the equation is $\boxed{150}$

Answer 58PA.

Consider to find the point slope form of an equation



In above graph the points of the slope (x_1, y_1) is $(1996, 29690)$

And the slope of the equation is $m = 1500$

Formulae of point slope

$$y - y_1 = m(x - x_1)$$

Substitute the values $(x_1, y_1) = (1996, 29690)\, m = 1500$ in the point slope form

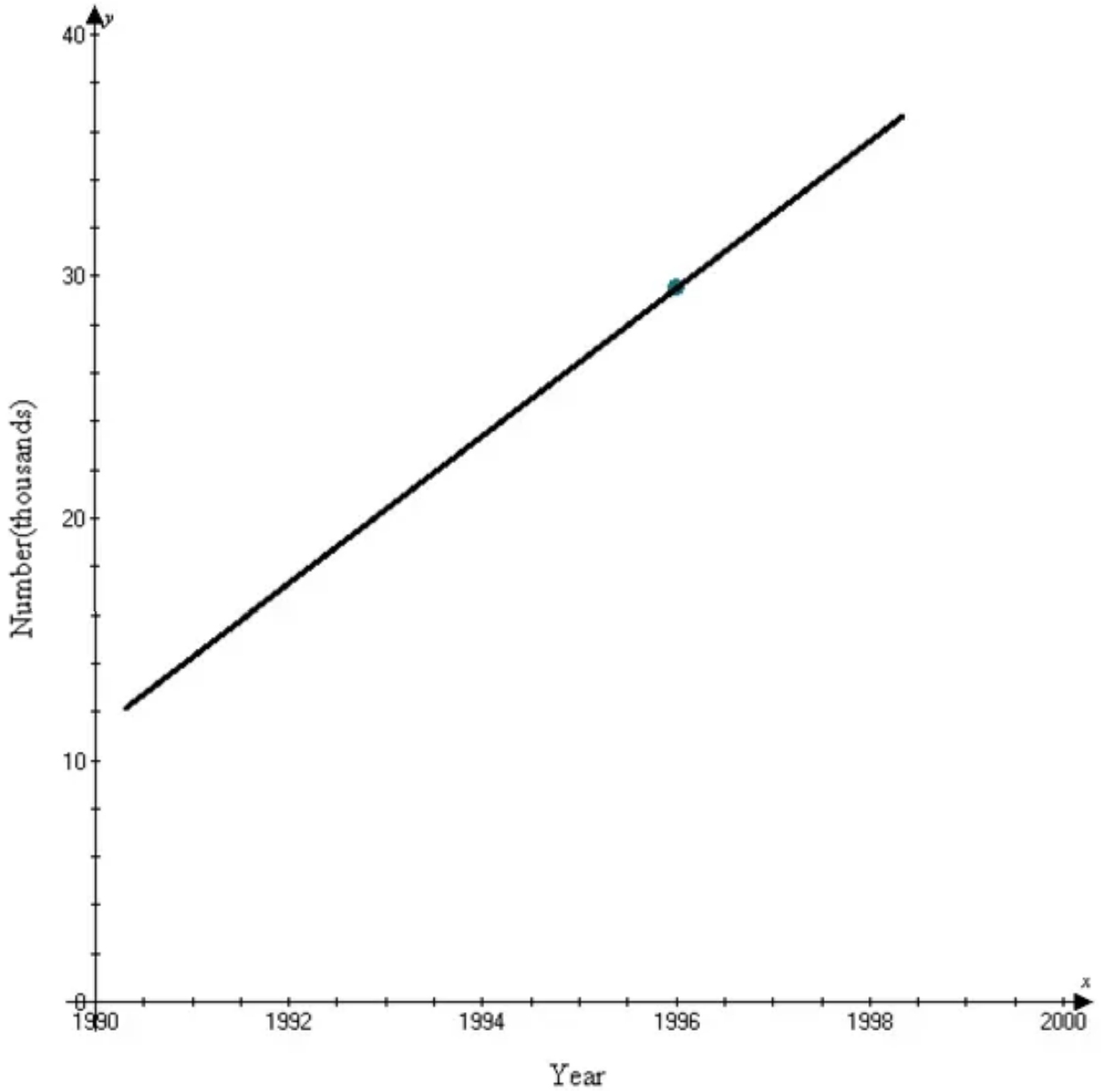
$$y - y_1 = m(x - x_1) \qquad \text{Point slope formula}$$

$$y - 29690 = 1500(x - 1996)$$

Hence the required solution of the point slope form $\boxed{y - 29690 = 1500(x - 1996)}$

Answer 59PA.

Consider to find the slope intercept form of equation



In above graph the points of the slope (x_1, y_1) is $(1996, 29690)$

And the slope of the equation is $m = 1500$

Formulae of point slope

$$y - y_1 = m(x - x_1)$$

Slope-intercept form in the form of $y = mx + b$

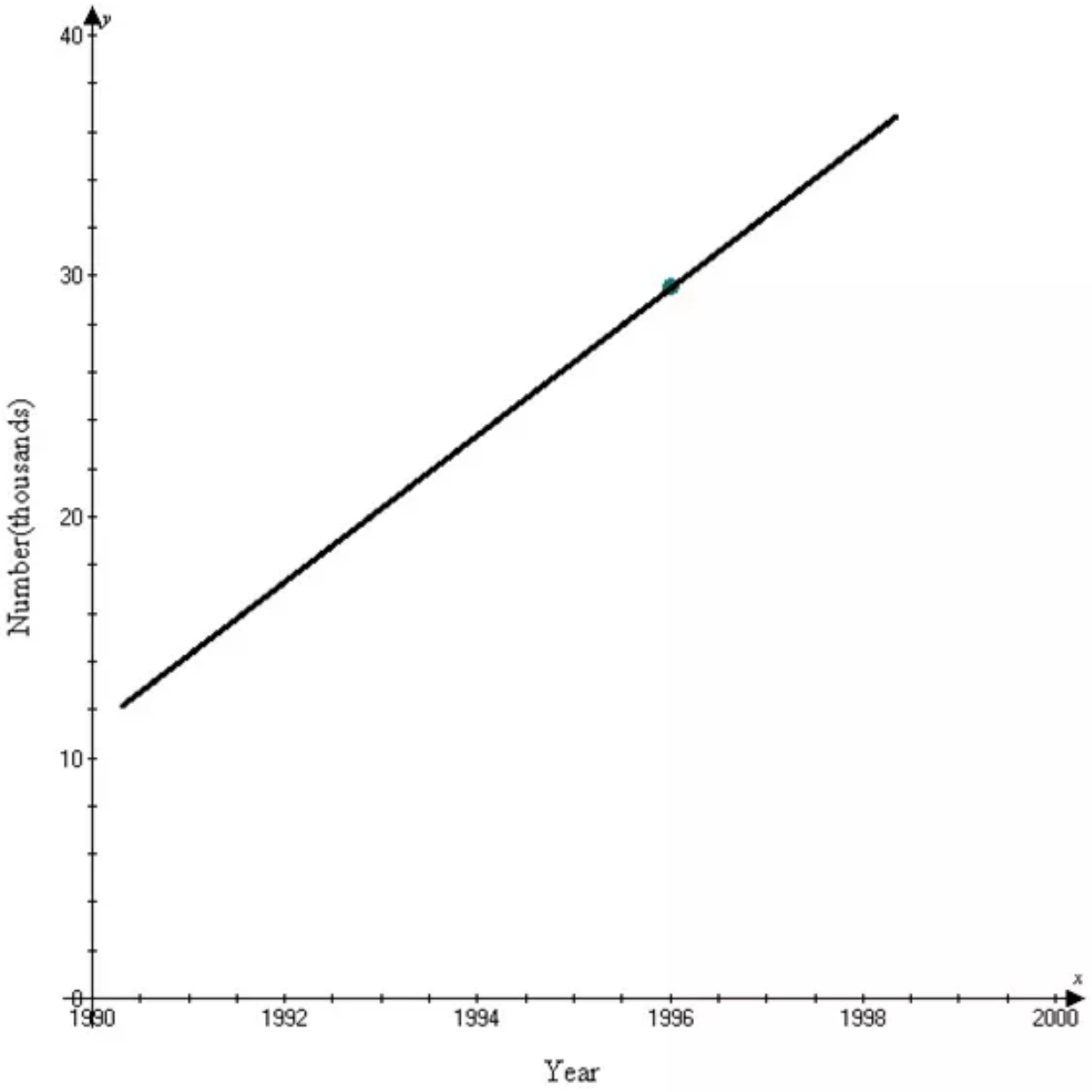
Substitute the values $(x_1, y_1) = (1996, 29690)\, m = 1500$ in the point slope form

$$y - 29690 = 1500(x - 1996) \qquad \text{By distributive property } a(b+c) = ab + ac$$
$$y - 29690 = 1500x - 2994000$$
$$y - 29690 + 29690 = 1500x - 2994000 + 29690 \qquad \text{Add 29690 on both sides}$$
$$y = 1500x - 2964310$$

Hence the required solution of the slope-intercept form $\boxed{y = 1500x - 2964310}$

Answer 60PA.

Consider the predict the number of movie screens in the united states in 2005



Use the equation $y = 1500x - 2964310$ and x is the number of years and y is the number of thousands

And the slope of the equation is $m = 1500$

Formulae of point slope

$$y - y_1 = m(x - x_1)$$

Slope-intercept form in the form of $y = mx + b$

Substitute the values $(x_1, y_1) = (1996, 29690)\, m = 1500$ in the point slope form

$$y - 29690 = 1500(x - 1996) \qquad \text{By distributive property } a(b+c) = ab + ac$$
$$y - 29690 = 1500x - 2994000$$
$$y - 29690 + 29690 = 1500x - 2994000 + 29690 \qquad \text{Add 29690 on both sides}$$
$$y = 1500x - 2964310$$

Hence the required solution of the slope-intercept form $\boxed{y = 1500x - 2964310}$

Let us take $x = 2005$

Substitute the value $x = 2005$ in the equation

$$y = 1500(2005) - 2964310$$
$$y = 3007500 - 2964310$$
$$y = 43190$$

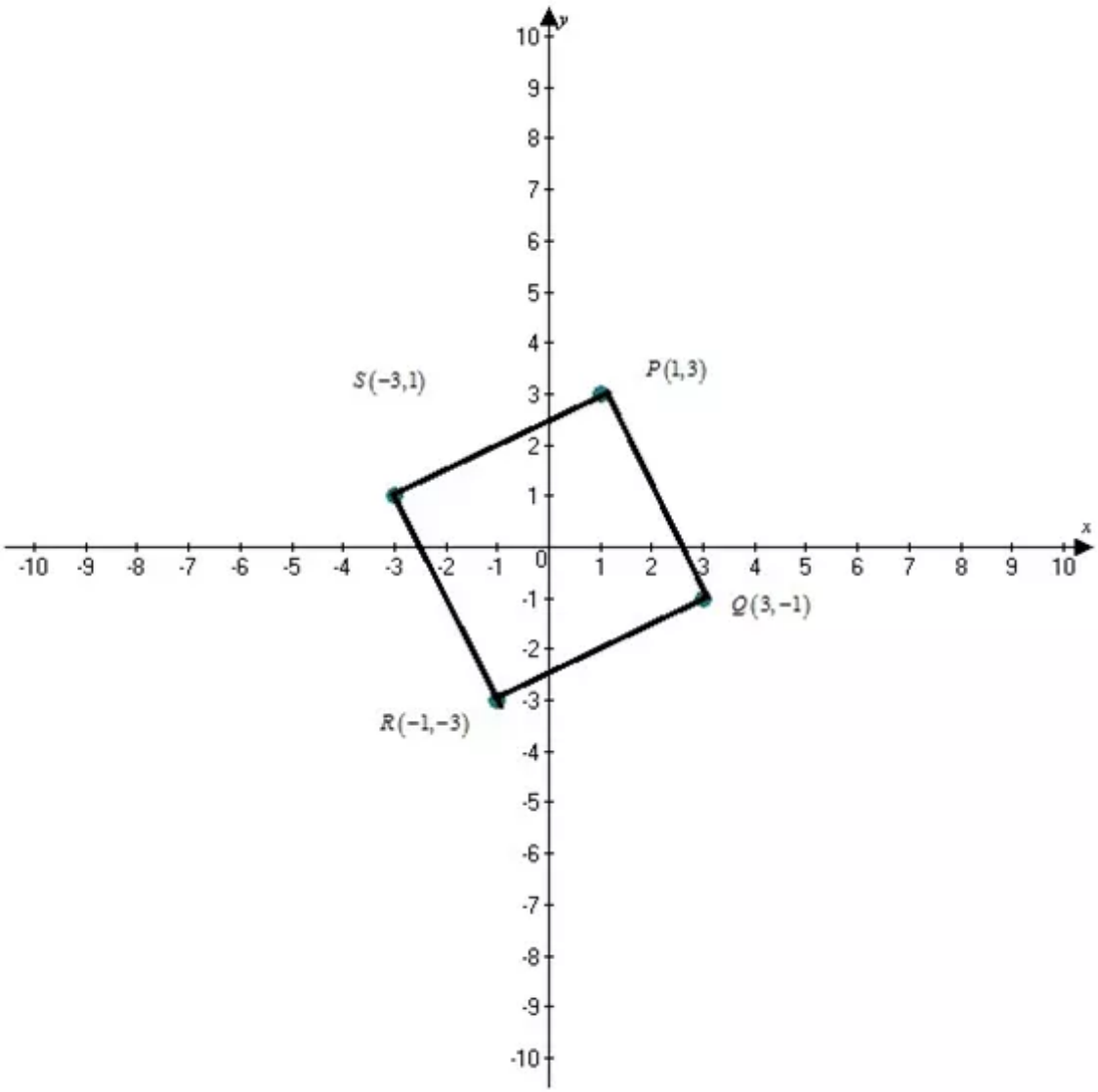
Hence the required solution of the predict the number of screens in 2005 is $\boxed{y = 43190}$

Answer 61PA.

Consider the point slope form line containing the each side

Consider the points

$P(1,3)$
$Q(3,-1)$
$R(-1,-3)$
$S(-3,1)$



Consider to find the four diagonals of the square

$\overline{QP}, \overline{RQ}, \overline{PS}, \overline{RS}$

Slope formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $Q(-3,-1), P(1,3)$

$$m = \frac{3-(-1)}{1-3}$$

$$m = \frac{4}{-2}$$

$$m = -2$$

And the slope $m = -2$

Formulae of point slope form

$$y - y_1 = m(x - x_1)$$

Substitute the values $(x_1, y_1) = (1,3)$ and $m = -2$ in the point slope formula

$y - y_1 = m(x - x_1)$ Point slope formula

$y - 3 = -2(x - 1)$

Hence the required solution of the point slope form $\boxed{y - 3 = -2(x - 1)}$

Then now find the diagonals of $\overline{RQ}$

Formulae of slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $R(-1,-3)Q(3.-1)$

$$m = \frac{-1-(-3)}{3-(-1)}$$

$$m = \frac{-1+3}{4}$$

$$m = \frac{2}{4}$$

$$m = \frac{1}{2}$$

And the slope $m = \frac{1}{2}$

Formulae of point slope form

$$y - y_1 = m(x - x_1)$$

Substitute the values $(x_1, y_1) = (-1, -3)$ and $m = \frac{1}{2}$ in the point slope formula

$y - y_1 = m(x - x_1)$ Point slope form

$y - (-3) = \frac{1}{2}(x - (-1))$

$y + 3 = \frac{1}{2}(x + 1)$

Hence the required solution of the point slope form $\boxed{y + 3 = \frac{1}{2}(x + 1)}$

Then find the diagonals of $\overline{RS}$

Formulae of slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $R(-1, -3), S(-3, 1)$

$$m = \frac{1 - (-3)}{-3 - (-1)}$$

$$m = \frac{1 + 3}{-3 + 1}$$

$$m = \frac{4}{-2}$$

$$m = -2$$

And the slope $m = -2$

Formulae of point slope form

$y - y_1 = m(x - x_1)$

Substitute the values $(x_1, y_1) = (-1, -3)$ and $m = -2$ in the point slope formula

$y - y_1 = m(x - x_1)$ Point slope formula

$y - (-3) = -2(x - (-1))$

$y + 3 = -2(x + 1)$

Hence the required solution of the point slope form $\boxed{y + 3 = -2(x + 1)}$

Then find the diagonals of $\overline{PS}$

Formulae of slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Find the slope $P(1,3),S(-3,1)$

$$m=\frac{1-3}{-3-1}$$

$$m=\frac{-2}{-4}$$

$$m=\frac{1}{2}$$

And the slope $m=\frac{1}{2}$

Formulae of point slope form

$$y-y_1=m(x-x_1)$$

Substitute the values $(x_1,y_1)=(-1,-3)$ and $m=-2$ in the point slope formula

$y-y_1=m(x-x_1)$ Point slope formula

$$y-3=\frac{1}{2}(x-1)$$

Hence the required solution of the point slope form $\boxed{y-3=\frac{1}{2}(x-1)}$

Answer 62PA.

Need to find the point slope form line containing the each side

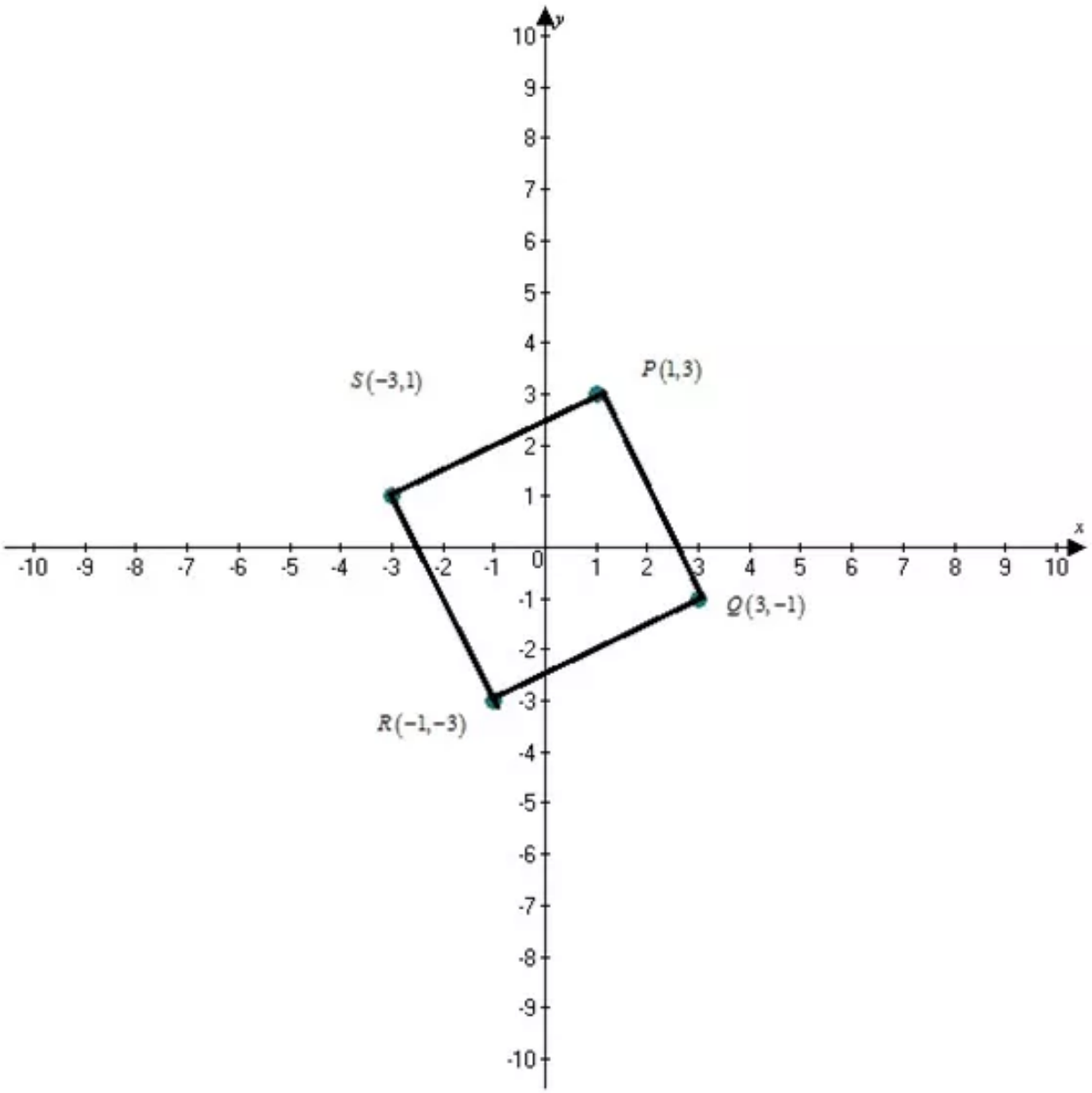
Consider the points

$P(1,3)$

$Q(3,-1)$

$R(-1,-3)$

$S(-3,1)$



Consider to find the four diagonals of the square

$\overline{QP}, \overline{RQ}, \overline{PS}, \overline{RS}$

Slope formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $Q = (-3,-1), P(1,3)$

$$m = \frac{3-(-1)}{1-3}$$

$$m = \frac{4}{-2}$$

$$m = -2$$

And the slope $m = -2$

Formulae of point slope form

$$y - y_1 = m(x - x_1)$$

Slope-intercept form in the form of $y = mx + b$

Substitute the values $(x_1, y_1) = (1,3)$ and $m = -2$ in the point slope formula

$y - 3 = -2(x-1)$ By distributive property $a(b+c) = ab + ac$

$y - 3 = -2x + 2$

$y - 3 + 3 = -2x + 2 + 3$ Adding 3 on both sides

$y = -2x + 5$

Hence the required solution of the slope-intercept form $\boxed{y = -2x + 5}$

Then now find the diagonals of $\overline{RQ}$

Formulae of slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $R(-1,-3)Q(3.-1)$

$$m=\frac{-1-(-3)}{3-(-1)}$$

$$m=\frac{-1+3}{4}$$

$$m=\frac{2}{4}$$

$$m=\frac{1}{2}$$

And the slope $m=\frac{1}{2}$

Formulae of point slope form

$$y-y_1=m(x-x_1)$$

Substitute the values $(x_1,y_1)=(-1,-3)$ and $m=\frac{1}{2}$ in the point slope formula

$$y-(-3)=\frac{1}{2}(x-(-1))$$

$$y+3=\frac{1}{2}(x+1)$$ By distributive property $a(b+c)=ab+ac$

$$y+3=\frac{1}{2}x+\frac{1}{2}$$

$$y+3-3=\frac{1}{2}x+\frac{1}{2}-3$$ Adding -3 on both sides

By simplification

$$y=\frac{1}{2}x-\frac{5}{2}$$

Hence the required solution of the slope-intercept form $\boxed{y=\frac{1}{2}x-\frac{5}{2}}$

Then find the diagonals of $\overline{RS}$

Formulae of slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Find the slope $R(-1,-3),S(-3,1)$

$$m=\frac{1-(-3)}{-3-(-1)}$$

$$m=\frac{1+3}{-3+1}$$

$$m=\frac{4}{-2}$$

$$m=-2$$

And the slope $m=-2$

Formulae of point slope form

$$y-y_1=m(x-x_1)$$

Substitute the values $(x_1,y_1)=(-1,-3)$ and $m=-2$ in the point slope formula

$$y-(-3)=-2(x-(-1))$$

$$y+3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y+3=-2x-2$$

$$y+3-3=-2x-2-3 \qquad \text{Adding } -3 \text{ on both sides}$$

By simplification

$$y=-2x-5$$

Hence the required solution of the slop-intercept form $\boxed{y=-2x-5}$

Then find the diagonals of $\overline{PS}$

Formulae of slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Find the slope $P(1,3),S(-3,1)$

$$m=\frac{1-3}{-3-1}$$

$$m=\frac{-2}{-4}$$

$$m=\frac{1}{2}$$

And the slope $m=\frac{1}{2}$

Formulae of point slope form

$$y-y_1=m(x-x_1)$$

Substitute the values $(x_1,y_1)=(-1,-3)$ and $m=-2$ in the point slope formula

$$y-3=\frac{1}{2}(x-1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=\frac{1}{2}x-\frac{1}{2}$$

$$y-3+3=\frac{1}{2}x-\frac{1}{2}+3 \qquad \text{Adding 3 on both sides}$$

$$y=\frac{1}{2}x+\frac{5}{2}$$

Hence the required solution of the slope-intercept form $\boxed{y=\frac{1}{2}x+\frac{5}{2}}$

Answer 63PA.

Consider the point slope form line containing the each side

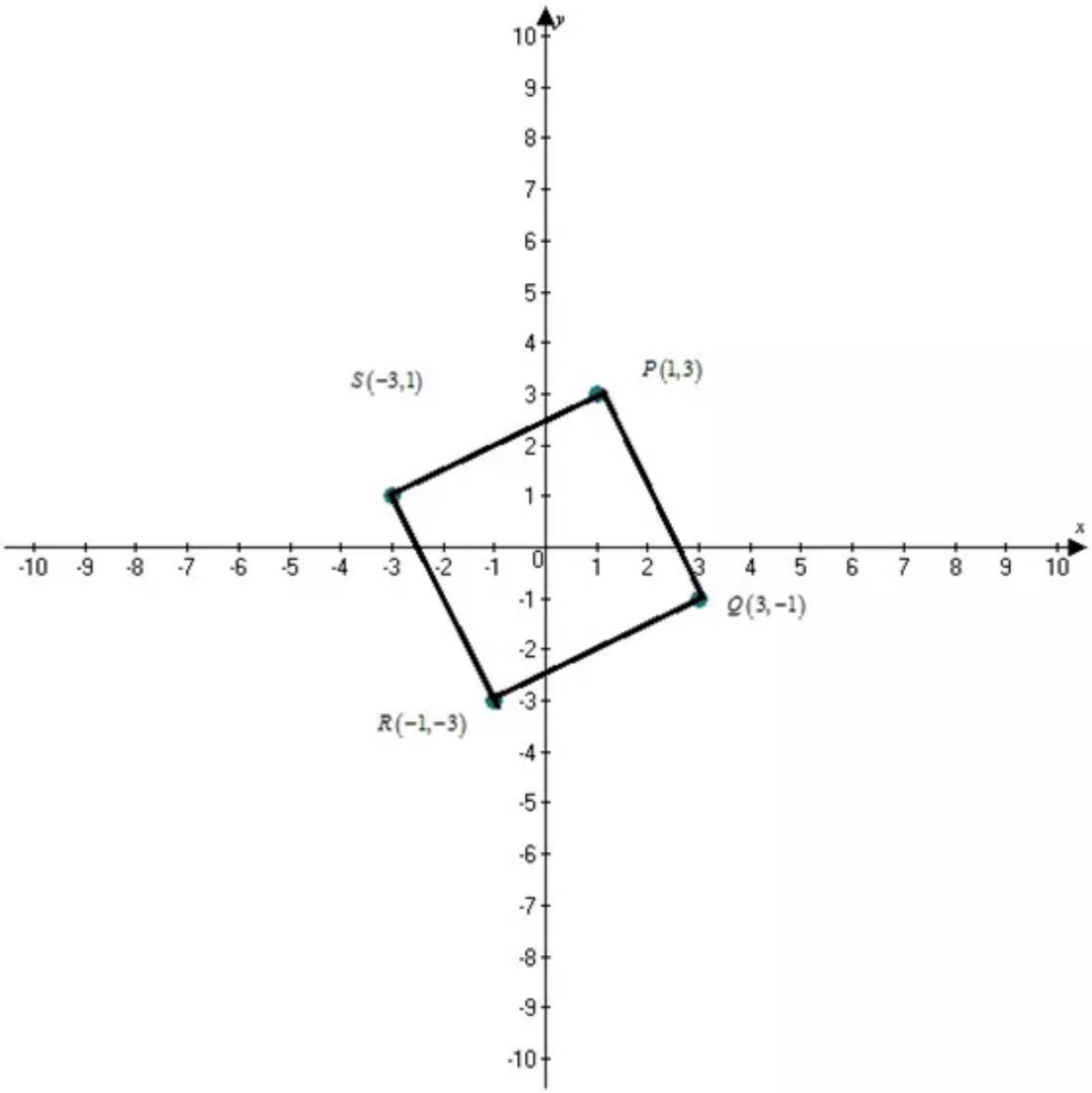
Consider the points

$P(1,3)$

$Q(3,-1)$

$R(-1,-3)$

$S(-3,1)$



Consider to find the four diagonals of the square

$\overline{QP}, \overline{RQ}, \overline{PS}, \overline{RS}$

Slope formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $Q = (-3,-1), P(1,3)$

$$m = \frac{3-(-1)}{1-3}$$
$$m = \frac{4}{-2}$$
$$m = -2$$

And the slope $m = -2$

Formulae of point slope form

$$y - y_1 = m(x - x_1)$$

Standard form in the form of $y = mx + b$

Substitute the values $(x_1, y_1) = (1,3)$ and $m = -2$ in the point slope formula

$$y - 3 = -2(x-1)$$ By distributive property $a(b+c) = ab + ac$

$$y - 3 = -2x + 2$$

$$y - 3 - y - 2 = -2x + 2 - y - 2$$ Adding $-y-2$ on both sides

$$-2x - y = -5$$

By simplification

$$2x + y = 5$$ Multiply -1 on both sides

Hence the required solution of the standard form equation is $\boxed{2x + y = 5}$

Then now find the diagonals of $\overline{RQ}$

Formulae of slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope $R(-1,-3)Q(3.-1)$

$$m = \frac{-1-(-3)}{3-(-1)}$$
$$m = \frac{-1+3}{4}$$
$$m = \frac{2}{4}$$
$$m = \frac{1}{2}$$

And the slope $m = \frac{1}{2}$

Formulae of point slope form

$$y - y_1 = m(x - x_1)$$

Substitute the values $(x_1, y_1) = (-1, -3)$ and $m = \frac{1}{2}$ in the point slope formula

$$y-(-3)=\frac{1}{2}(x-(-1))$$

$$y+3=\frac{1}{2}(x+1)$$ By distributive property $a(b+c)=ab+ac$

$$2(y+3)=2\left(\frac{1}{2}\right)(x+1)$$ Multiply 2 on both sides

$$2y+6=x+1$$

By simplification

$$2y+6-2y-1=x+1-2y-1$$ Adding $-2y-1$ on both sides

$$5=x-2y$$

$$x-2y=5$$

Hence the required solution of the point slope form $\boxed{x-2y=5}$

Then find the diagonals of $\overline{RS}$

Formulae of slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Find the slope $R(-1,-3), S(-3,1)$

$$m=\frac{1-(-3)}{-3-(-1)}$$

$$m=\frac{1+3}{-3+1}$$

$$m=\frac{4}{-2}$$

$$m=-2$$

And the slope $m=-2$

Formulae of point slope form

$$y-y_1=m(x-x_1)$$

Substitute the values $(x_1, y_1) = (-1, -3)$ and $m=-2$ in the point slope formula

$$y-(-3)=-2(x-(-1))$$

$$y+3=-2(x+1)$$ By distributive property $a(b+c)=ab+ac$

$$y+3=-2x-2$$

$$y+3-y+2=-2x-2-y+2$$ Adding $-y+2$ on both sides

By simplification

$$5=-2x-y$$

$$-2x-y=5$$

$$2x+y=-5$$ Multiply -1 on both sides

Hence the required solution of the point slope form $\boxed{2x+y=-5}$

Then find the diagonals of $\overline{PS}$

Formulae of slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Find the slope $P(1,3),S(-3,1)$

$$m=\frac{1-3}{-3-1}$$

$$m=\frac{-2}{-4}$$

$$m=\frac{1}{2}$$

And the slope $m=\frac{1}{2}$

Formulae of point slope form

$$y-y_1=m(x-x_1)$$

Substitute the values $(x_1,y_1)=(-1,-3)$ and $m=-2$ in the point slope formula

$$y-(-3)=\frac{1}{2}(x-(-1))$$

$$y+3=\frac{1}{2}(x+1)$$ By distributive property $a(b+c)=ab+ac$

$$2(y+3)=2\left(\frac{1}{2}\right)(x+1)$$ Multiply 2 on both sides

$$2y+6=x+1$$

By simplification

$$2y+6-2y-1=x+1-2y-1$$ Adding $-2y-1$ on both sides

$$5=x-2y$$

$$x-2y=5$$

Hence the required solution of standard form equation is $\boxed{x-2y=5}$

Answer 64PA.

Consider the line of the points $(9,1)$ and $(5,5)$

And find the convincing argument that the same line intersects the x axis at $(10,0)$

And find the slope of the points $(9,1),(5,5)$

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values in the slope formula solve the equation

$$m=\frac{y_2-y_1}{x_2-x_1} \qquad \text{Slope formula}$$

$$m=\frac{5-1}{5-9}$$

$$m=\frac{4}{-4}$$

$$m=-1$$

And the slope $m=-1$

Point slope formula

$$y-y_1=m(x-x_1)$$

Slope-intercept form in the form of $y=mx+b$

Substitute the values $(x_1,y_1)=(9,1)$ and $m=-1$ in the point slope formula

$$y-1=-1(x-9) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-1=-x+9$$

$$y-1+1=-x+9+1 \qquad \text{Adding 1 on both sides}$$

$$y=-x+10$$

Hence the solution of slope-intercept form $y=-x+10$

Let us take $y=0$

Substitute the $y=0$ in the slope intercept form equation

$$y=-x+10 \qquad \text{Original equation}$$

$$0=-x+10 \qquad \text{Replace } y=0$$

$$x=10 \qquad \text{Add } x \text{ on both sides}$$

Hence the required solution it satisfies the convincing argument the same line intercepts the x axis at $(10,0)$

Answer 65PA.

Consider the use the slope formula to write an equation of a line

And explanation of how you can use the slope formula to write the point-slope form

Formulae of slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Assume the points

$(2,1)$ and $(3,4)$

Substitute the values $(x_1,y_1)=(2,1)$ and $(x_2,y_2)=(3,4)$ in the slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$
$$m=\frac{4-1}{3-2}$$
$$m=\frac{3}{1}$$
$$m=3$$

And slope $m=3$

Formula of point slope form

$$y-y_1=m(x-x_1)$$

In the point slope form formula m is the slope

Here x is the x coordinate and y is the y coordinate

And the (x_1,y_1) is represents the points

Solve the equation

$y-y_1=m(x-x_1)$ Point slope formula

$y-1=3(x-2)$ By distributive property $a(b+c)ab+ac$

Hence the required solution is in the of point slope form

Answer 66PA.

Need to find the equation line passes through the neither passes through the point $(0,1)$ and the slope 3

$(A)-2x+y=1$

$(B)\,y+1=3(x+6)$

$(C)\,y-3=3(x-6)$

$(D)\,x-3y=-15$

Here given above the four multiply choices the option (B) and (C) conformal passes through the given point because the slope 3 is passing through the point

And the option $(A)-2x+y=1$ solve the equation in the slope form

$$\begin{aligned} -2x+y&=1\\ -2x+2x+y&=1+2x \qquad \text{Adding } 2x \text{ on both sides}\\ y&=2x+1 \end{aligned}$$

Use the equation $y=2x+1$ substitute the point $x=0$ solve the equation

$$\begin{aligned} y&=2x+1\\ y&=2(0)+1\\ y&=1 \end{aligned}$$

Hence this is also not correct answer

And the option (D) $x-3y=-15$ solve the equation in the slope form

$$\begin{aligned} x-3y&=-15\\ x-3y-x&=-15-x \qquad \text{Adding } -x \text{ on both sides}\\ -3y&=-x-15\\ \frac{-3}{-3}y&=\frac{-1}{-3}x-\frac{15}{-3} \qquad \text{Divide } -3 \text{ on both sides} \end{aligned}$$

By simplification

$$y=\frac{1}{3}x-3$$

Substitute the values the point $(0,1)$ in the equation and solve the equation

$$\begin{aligned} y&=\frac{1}{3}x-5 \qquad \text{Original equation}\\ y&=\frac{1}{3}(0)-5 \qquad \text{Replace } x=0\\ y&=-5 \end{aligned}$$

Hence the required solution of the line that neither passes option $\boxed{(D)\,x-3y=15}$

Answer 67PA.

Need to write the slope intercept form of an equation of a line that passes through the $(2,-5)$

Consider the line that passes through the point $(2,-5)$

Formula of point slope form $y-y_1=m(x-x_1)$

Substitute the line passes through the point $(2,-5)$ in the point slope formula

Solve the equation

$y-y_1=m(x-x_1)$ Replace $x_1=2$ and $y_1=-5$

$y-(-5)=m(x-2)$ By distributive property $a(b+c)=ab+ac$

$y+5=mx-2m$

$y+5-5=mx-2m-5$ Adding -5 on both sides

By simplification we get

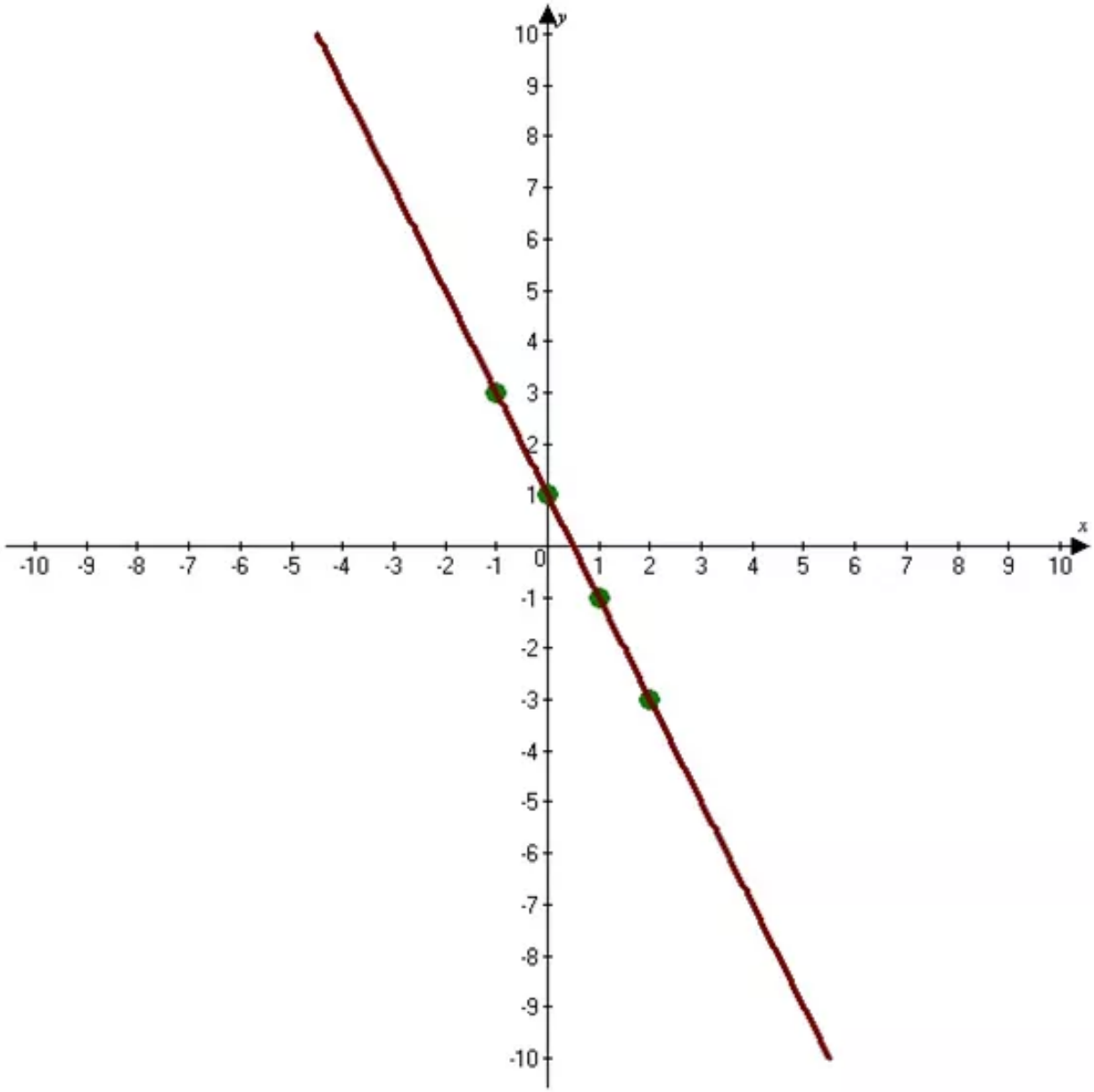
$y=mx-2m-5$

Hence the required solution of the slope intercept form of an equation of a line that passes through the $\boxed{y=mx-2m-5}$

Answer 68PA.

Consider the three different pairs of points from the graph write the slope intercept form of the line using each pair

Draw the graph



Consider the different pairs of points are

$A=(-1,3), B=(0,1), C=(1,-1), D(2,-3)$

Find the AB and AC and AD

First we find AB slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=0, y_1=3, y_2=1$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{1-3}{0-(-1)}$$

$$m=\frac{-2}{1}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Next we have to find the AC slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=1, y_1=3, y_2=-1$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{-1-3}{1-(-1)}$$

$$m=\frac{-4}{2}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Next we have to find AD slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=2, y_1=3, y_2=-3$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$
$$m=\frac{-3-3}{2-(-1)}$$
$$m=\frac{-6}{3}$$
$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$
$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-3=-2x-2$$
$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$
$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

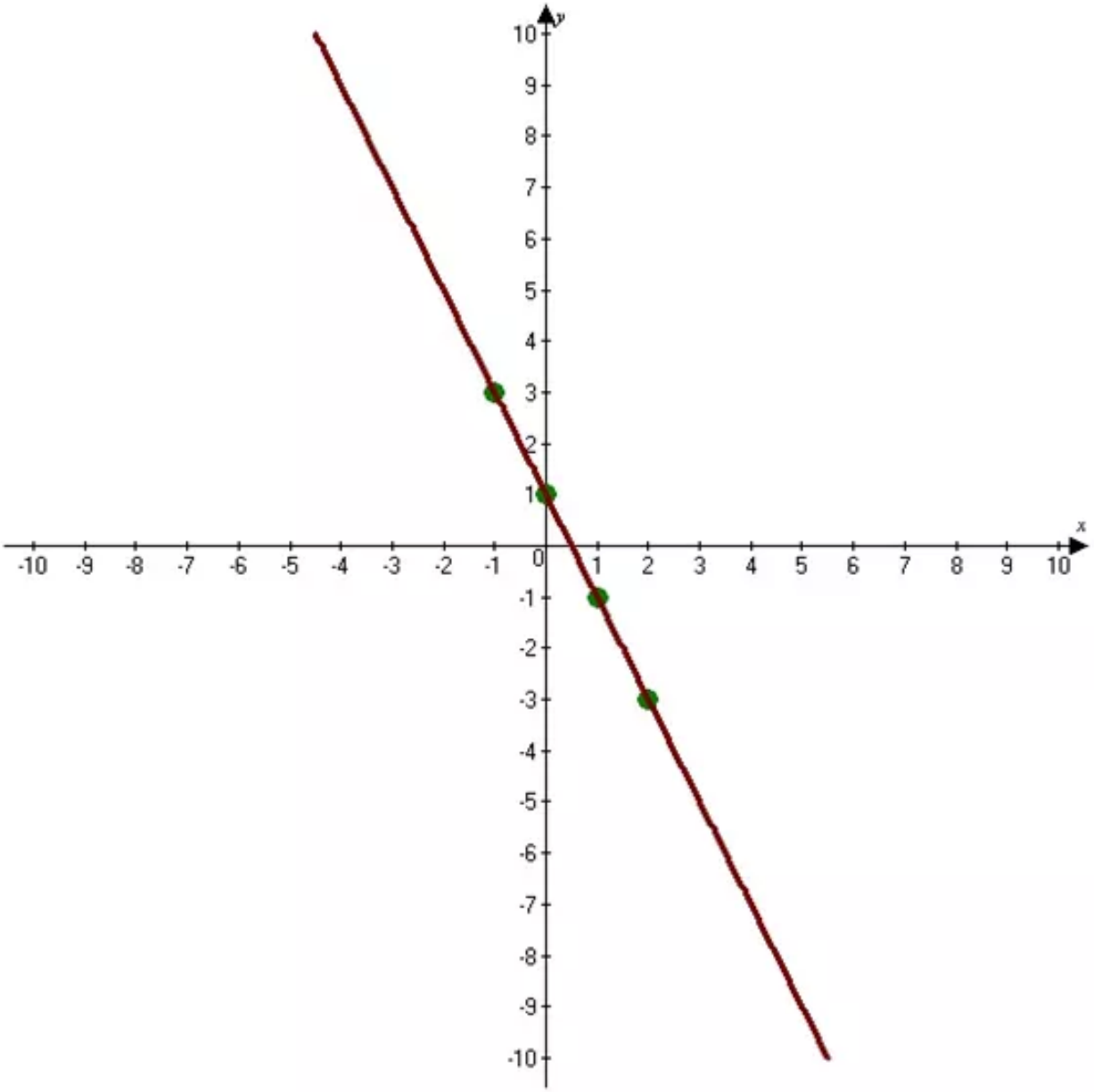
Hence the required solution the slope intercept form equation and the slope of the equation all the equations are same

Answer 69PA.

Need to find how the equations are related

Consider the three different pairs of points from the graph write the slope intercept form of the line using each pair

Draw the graph



Consider the different pairs of points are

$$A=(-1,3), B=(0,1), C=(1,-1), D(2,-3)$$

Find the AB and AC and AD

First we find AB slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=0, y_1=3, y_2=1$ in the slope formula solve the equation we

get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{1-3}{0-(-1)}$$

$$m=\frac{-2}{1}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Next we have to find the AC slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=1, y_1=3, y_2=-1$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{-1-3}{1-(-1)}$$

$$m=\frac{-4}{2}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Next we have to find AD slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=2, y_1=3, y_2=-3$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{-3-3}{2-(-1)}$$

$$m=\frac{-6}{3}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

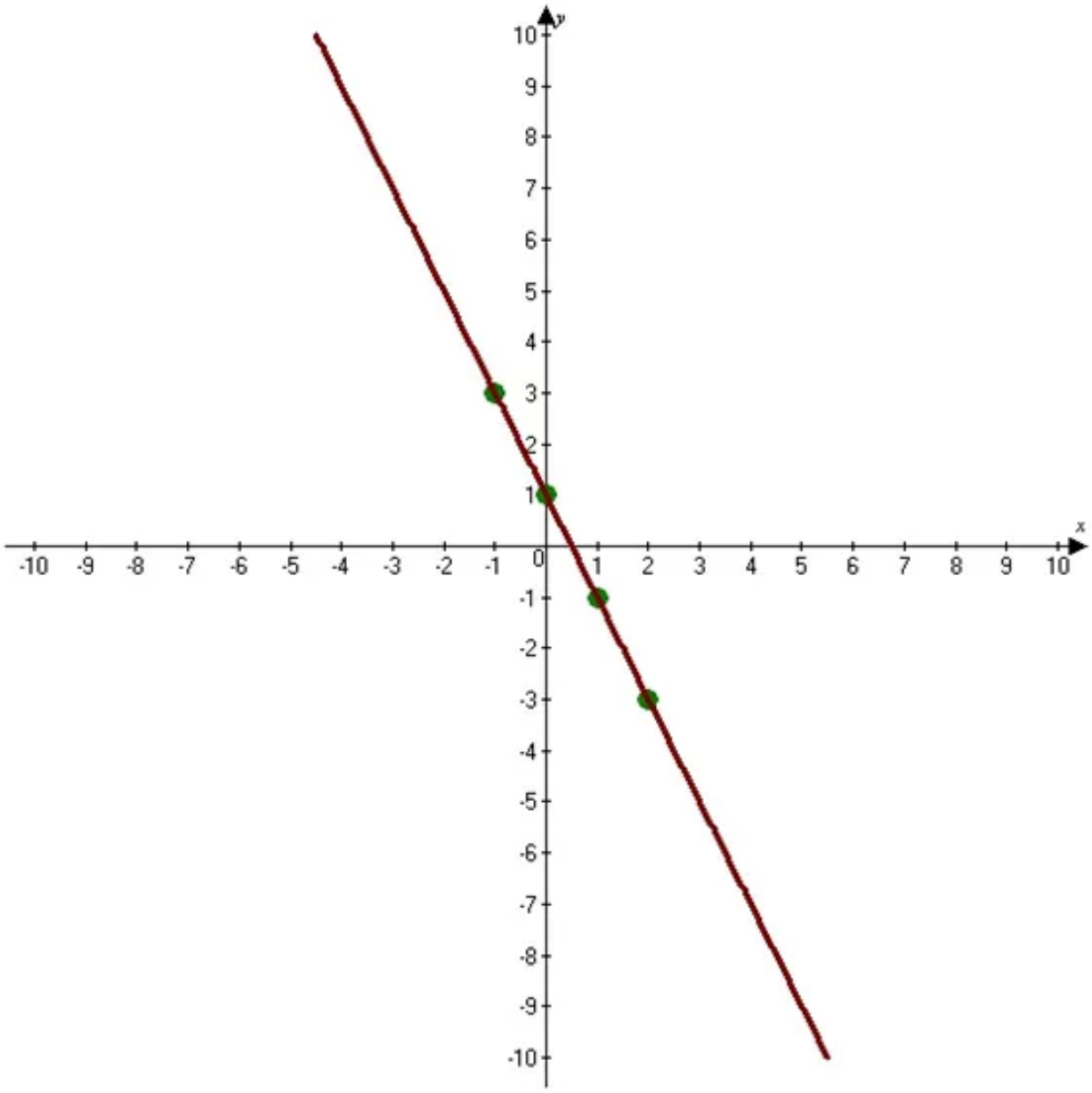
Hence the required solution the equations are related to slope intercepts form equation and the slope of the equation all the equations are same

Answer 70PA.

Need to choose a different pair of points from the graph and predict the equation of the line determined by these points check the conjecture

Consider the different pairs of points from the graph write the slope intercept form of the line using each pair

Draw the graph



Consider the different pairs of points are

$A=(-1,3), B=(0,1)$

Find the AB

First we find AB slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=0, y_1=3, y_2=1$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$
$$m=\frac{1-3}{0-(-1)}$$
$$m=\frac{-2}{1}$$
$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$
$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-3=-2x-2$$
$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$
$$y=-2x+1$$

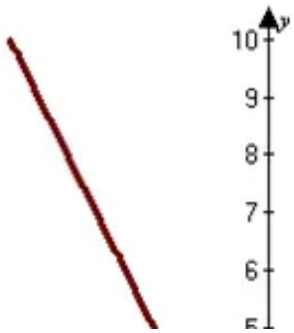
Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

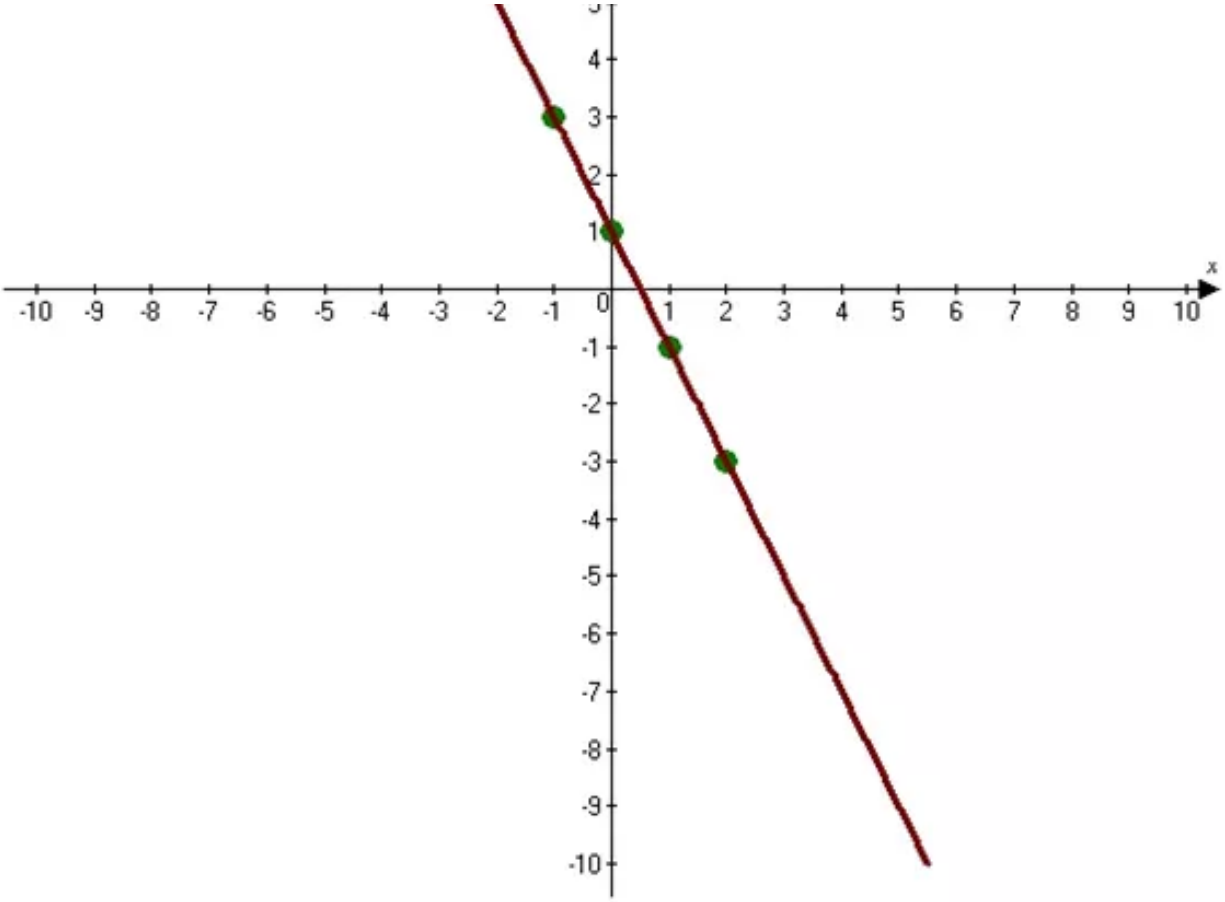
Answer 71PA.

Need to find the what conclusion can you draw from this activity

Consider the three different pairs of points from the graph write the slope intercept form of the line using each pair

Draw the graph





Consider the different pairs of points are

$$A=(-1,3), B=(0,1), C=(1,-1), D(2,-3)$$

Find the AB and AC and AD

First we find AB slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=0, y_1=3, y_2=1$ in the slope formula solve the equation we

get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{1-3}{0-(-1)}$$

$$m=\frac{-2}{1}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1)$$ By distributive property $a(b+c)=ab+ac$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3$$ Adding 3 on both sides

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Next we have to find the AC slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=1, y_1=3, y_2=-1$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{-1-3}{1-(-1)}$$

$$m=\frac{-4}{2}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Next we have to find AD slope

Slope formula

$$m=\frac{y_2-y_1}{x_2-x_1}$$

Substitute the values $x_1=-1, x_2=2, y_1=3, y_2=-3$ in the slope formula solve the equation we get

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{-3-3}{2-(-1)}$$

$$m=\frac{-6}{3}$$

$$m=-2$$

Now the slope the line $m=-2$

Slope intercepts form in the form of $y=mx+b$

Formulae of point slope form $y-y_1=m(x-x_1)$

Substitute the values $x_1=-1, y_1=3, m=-2$ in the point slope form and solve the equation we get

$$y-3=-2(x-(-1))$$

$$y-3=-2(x+1) \qquad \text{By distributive property } a(b+c)=ab+ac$$

$$y-3=-2x-2$$

$$y-3+3=-2x-2+3 \qquad \text{Adding 3 on both sides}$$

$$y=-2x+1$$

Hence the required solution is in the form of slope intercept form $\boxed{y=-2x+1}$

Hence the required solution the equations are related to slope intercepts form equation and the slope of the equation all the equations are same

Answer 72MYS.

Consider y intercept point -5

Slope of the point $m=2$

Slope of the intercept form $y=mx+b$

Formula of point slope $y=mx+b$

$$y=mx+b$$
$$y=(-2)x+(-5) \qquad \text{Replace } m \text{ by } -2 \text{ and } b \text{ by } -5$$
$$=-2x-5$$

Hence the slopes intercept form of equation $\boxed{y=-2x-5}$

Answer 73MYS.

Consider the slope point $(-2,3)$

Slope of the point $m=3$

Slope of the intercept form $y=mx+b$

Formula of point slope $y-y_1=m(x-x_1)$

$$y-4=3(x-(-2))$$
$$y-4=3(x+2) \qquad \text{By distributive property } a(b+c)=ab+ac$$
$$y-4=3x+6$$
$$y-4+4=3x+6+4 \qquad \text{Adding 4 on both sides}$$
$$y=3x+10$$

Hence the point slope equation $\boxed{y=3x+10}$

Answer 74MYS.

Need to find the slope intercept form of an equation passes through the point

Given that the point $(2,-4)$ and $(0,6)$

Slope intercepts form in the form of $y=mx+b$

Point slope form $y-y_1=m(x-x_1)$

Find the slope

$$m=\frac{y_2-y_1}{x_2-x_1}$$
$$m=\frac{6-(-4)}{0-2}$$
$$m=\frac{6+4}{-2}$$
$$m=\frac{10}{-2}$$
$$m=-5$$

Now substitute the value $(2,-4)$ in the point slope equation

$y-(-4)=-5(x-2)$ By distributive property $a(b+c)=ab+ac$

$y+4=-5x+10$

$y+4-4=5x+10-4$ Adding -4 on both sides

$y=5x+6$

Now substitute the value $(0,6)$ in the point slope equation

$y-6=-5(x-0)$ By distributive property $a(b+c)=ab+ac$

$y-6=-5x-0$

$y-6+6=-5x+6$ Adding 6 on both sides

$y=-5x+6$

Hence the required solution the slope intercepts form of an equation of the line that satisfies the point

Answer 75MYS.

Need to find the slope intercept form of an equation of line that satisfies the condition

Consider a horizontal line through $(1,-1)$

And slope $m=0$

Slope intercept form $y=mx+b$

Point slope form is $y-y_1=m(x-x_1)$

Substitute the values we get

$$\begin{aligned} y-(-1)&=0(x-1)\\ y+1&=0\\ y&=-1 \end{aligned}$$

Hence the required solution is slope intercept form equation satisfies the horizontal line

$\boxed{y=-1}$

Answer 76MYS.

Consider the equation $4a-5=15$

Need to solve the equation

Adding 5 on both sides

$$\begin{aligned} 4a-5&=15\\ 4a-5+5&=15+5 && \text{Adding 5 on both sides}\\ 4a&=20 && \text{Combine like terms}\\ a&=5 && \text{Dividing both sides by 4} \end{aligned}$$

Hence the value of a for the given expression is $\boxed{a=5}$.

Answer 77MYS.

Consider the equation $7+3c=-11$

Need to solve the equation

Adding -7 on both sides we get

$$\begin{aligned} 7+3c&=-11\\ -7+7+3c&=-11-7 && \text{Adding } -7 \text{ on both sides}\\ 3c&=-18 && \text{Combine like terms}\\ c&=-6 && \text{Dividing both sides by 3} \end{aligned}$$

Hence the value of c for the required equation is $\boxed{c=-6}$.

Answer 78MYS.

Consider the equation $\frac{2}{9}v-6=14$

Need to solve the equation

Adding 6 on both sides

$\frac{2}{9}v-6+6=14+6$ Adding 6 on both sides

$\frac{2}{9}v=20$ Combine like terms

$2v=180$ Multiplying both sides by 9

$v=90$ Dividing both sides by 2

Thus the value of v is for the given expression is $\boxed{v=90}$.

Answer 79MYS.

Evaluate the equation $(25-4)\div(2^2-1^3)$

Solve the equation we get

$(25-4)\div(2^2-1^3)$

$21\div(4-1)$

$21\div 3$ Divided by 3

7

Hence the required solution is $\boxed{7}$

Answer 80MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is 2

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$2=2^{-1}$

$=\frac{1}{2}$

Hence the required solution of multiplicative inverse number is $\boxed{\frac{1}{2}}$

Answer 81MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is 10

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$$\begin{aligned}10 &= 10^{-1}\\ &= \frac{1}{10}\end{aligned}$$

Hence the required solution of multiplicative inverse number is $\boxed{\frac{1}{10}}$

Answer 82MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is 1

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$$\begin{aligned}1 &= 1^{-1}\\ &= 1\end{aligned}$$

Hence the required solution of multiplicative inverse number is $\boxed{1}$

Answer 83MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is -1

To find inverse of multiplicative number

$$\begin{aligned}-1 &= -1^{-1}\\ &= -1\end{aligned}$$

Hence the required solution of multiplicative inverse number is $\boxed{-1}$

Answer 84MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is $\frac{2}{3}$

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$$\begin{aligned}\frac{2}{3} &= \left(\frac{2}{3}\right)^{-1}\\ &= \frac{3}{2}\end{aligned}$$

Hence the required solution of multiplicative inverse number is $\boxed{\frac{3}{2}}$

Answer 85MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is $-\frac{1}{9}$

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$$-\frac{1}{9}=-\left(\frac{1}{9}\right)^{-1}$$
$$=-9$$

Hence the required solution of multiplicative inverse number is $\boxed{-9}$

Answer 86MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is $\frac{5}{2}$

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$$\frac{5}{2}=\left(\frac{5}{2}\right)^{-1}$$
$$=\frac{2}{5}$$

Hence the required solution of multiplicative inverse number is $\boxed{\frac{2}{5}}$

Answer 87MYS.

Need to find the multiplicative inverse of each number

Given that the multiplicative number is $-\frac{2}{3}$

The reciprocal of x is $\frac{1}{x}$

To find inverse of multiplicative number

$$-\frac{2}{3}=-\left(\frac{2}{3}\right)^{-1}$$
$$=-\frac{3}{2}$$

Hence the required solution of multiplicative inverse number is $\boxed{-\frac{3}{2}}$