

1 LESSON 4.1 Graphing Linear Equations Using a Table

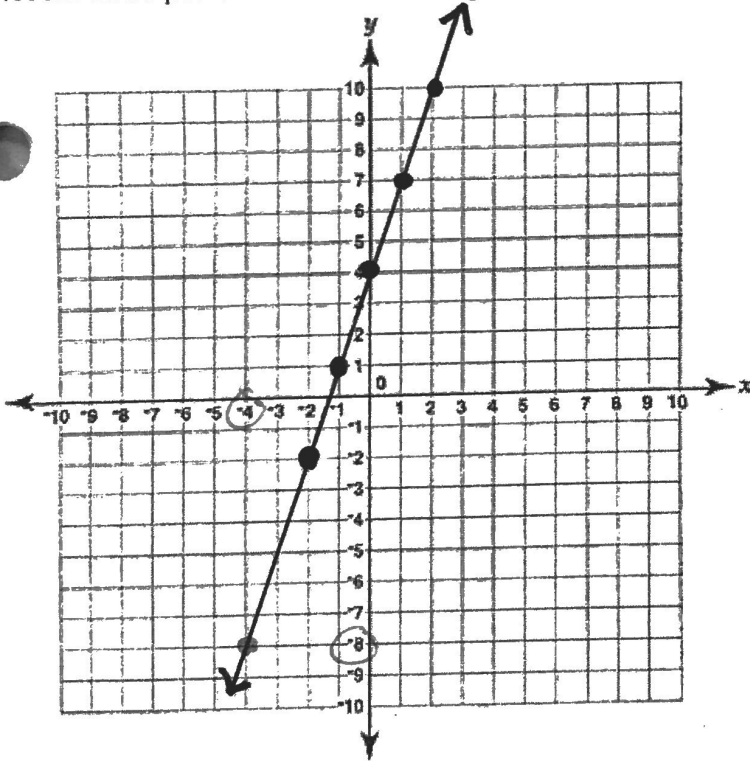
Line

a. Use the equation $y = 3x + 4$ to fill in the table

Choose any three values for x between -2 and 2 and then solve to find the corresponding value for y .

Value of "x"	Substitute x and solve for y $y = 3x + 4$	Value of "y"	Solution Point {ordered pair (x,y)}
-2	$y = 3(-2) + 4$	-2	$(-2, -2)$
-1	$y = 3(-1) + 4$	1	$(-1, 1)$
0	$y = 3(0) + 4$	4	$(0, 4)$
1	$y = 3(1) + 4$	7	$(1, 7)$
2	$y = 3(2) + 4$	10	$(2, 10)$

Plot the three points in the coordinate grid. Use a ruler to draw a line exactly through the points.



Find a different coordinate point that the line you drew passes through. Name that point $(-4, -8)$

Check that this point is a solution point of the equation $y = 3x + 4$
(substitute and check that the equation is still true)

$$y = 3x + 4$$

$$-8 = 3(-4) + 4$$

$$-8 = -12 + 4$$

$$-8 = -8 \quad \checkmark$$

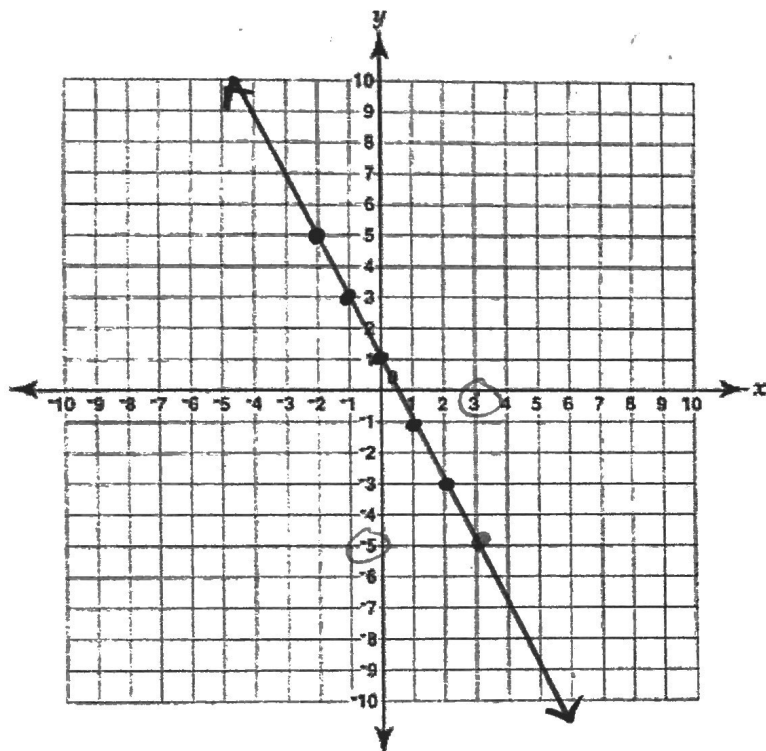
↑ Solutions

b. Use the equation $y = -2x + 1$ to fill in the table

Choose any three values for x between -4 and 4 and then solve to find the corresponding value for y .

Value of "x"	Substitute x and solve for y $y = -2x + 1$	Value of "y"	Solution Point {ordered pair (x,y) }
-2	$y = -2(-2) + 1$	5	$(-2, 5)$
-1	$y = -2(-1) + 1$	3	$(-1, 3)$
0	$y = -2(0) + 1$	1	$(0, 1)$
1	$y = -2(1) + 1$	-1	$(1, -1)$
2	$y = -2(2) + 1$	-3	$(2, -3)$

Plot the three points in the coordinate grid. Use a ruler to draw a line exactly through the points.



Find a different coordinate point that the line you drew passes through. Name that point $(3, -5)$

Check that this point is a solution point of the equation ~~$y = -2x + 1$~~

(substitute and check that the equation is still true)

$$\begin{aligned}
 y &= -2x + 1 \\
 -5 &= -2(3) + 1 \\
 -5 &= -6 + 1 \\
 -5 &= -5 \quad \checkmark
 \end{aligned}$$

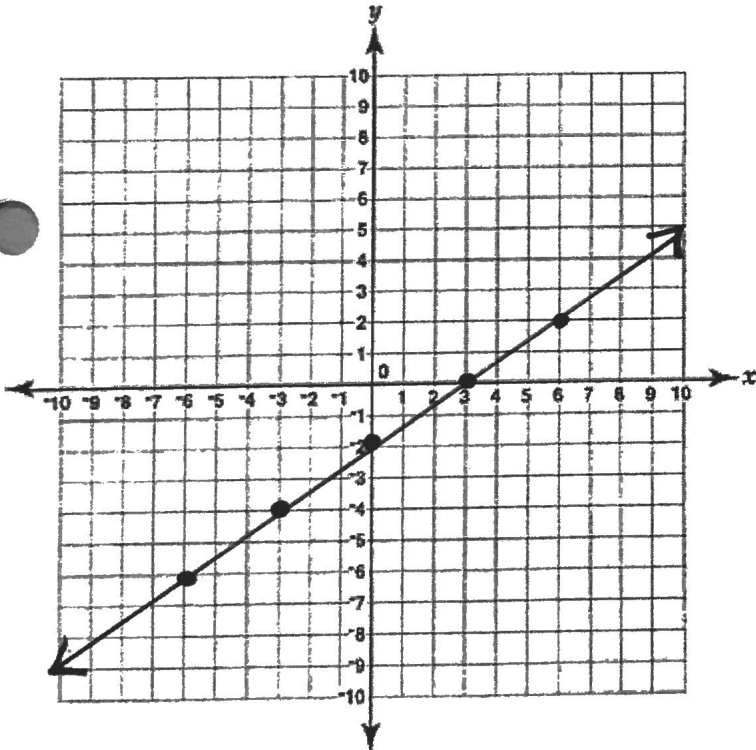
c. Use the equation $y = \frac{2}{3}x - 2$ to fill in the table

Choose any three values for x between -2 and 2 and then solve to find the corresponding value for y .

multiples of the denominator

		y	(x,y)
-6	$y = \frac{2}{3}(-6) - 2$	-6	(-6, -6)
-3	$y = \frac{2}{3}(-3) - 2$	-4	(-3, -4)
0	$y = \frac{2}{3}(0) - 2$	-2	(0, -2)
3	$y = \frac{2}{3}(3) - 2$	0	(3, 0)
6	$y = \frac{2}{3}(6) - 2$	2	(6, 2)

Plot the three points in the coordinate grid. Use a ruler to draw a line exactly through the points.



Find a different coordinate point that the line you drew passes through. Name that point (,)

Check that this point is a solution point of the equation $y = \frac{2}{3}x - 2$
(substitute and check that the equation is still true)