

TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

Determine If an Ordered Pair Is a Solution

- ◆ Recall: An x -value is a solution to a ___-variable equation if it makes the equation true when x is plugged in.
 - An ordered pair (x, y) is a solution to a ___-variable eqn if it makes the eqn true when x AND y are plugged in.

Recall	One-Variable Equation	New	Two-Variable Equation
	Verify that $x = 3$ is a solution. $x + 2 = 5$ $3 + 2 = 5$ $5 = 5$ ✓		Verify that $(3, 1)$ is a solution. $x + 2y = 5$

EXAMPLE

Given the linear equation $x + 2y = 5$, which of the following ordered pairs are solutions?

(A)

(5, 0)

(B)

(8, 2)

(C)

(-3, 4)

TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

PRACTICE

Given the equation $y - 4 = x + 1$, which of the following ordered pairs is a solution?

(A) $(-1, -4)$

(B) $(0, 5)$

(C) $(1, 6)$

(D) $(2, 7)$

PRACTICE

Given the equation $y = 3x - 8$, which of the following ordered pairs is a solution?

(A) $(0, -8)$

(B) $\left(\frac{2}{3}, -6\right)$

(C) $(2, 0)$

(D) $(1, -3)$

TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

Completing Ordered Pair Solutions

◆ Recall: We can determine if an ordered pair (x, y) is a solution to a 2-variable equation by plugging in x and y .

► To complete an ordered pair solution, plug the _____ value into the equation & solve for the _____ value.

EXAMPLE

Given the linear equation $y = 2x + 3$, complete the ordered pair solutions by filling in the table.

New Completing Ordered Pairs			
$y = 2x + 3$	x	y	(x, y)
	1		
		-7	
	$\frac{5}{2}$		

EXAMPLE

Given the linear equation $x = 3y - 2$, complete the following ordered pair solutions.

(A) $(2, \underline{\hspace{1cm}})$

(B) $(\underline{\hspace{1cm}}, 5)$

TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

PRACTICE

Given the equation $y = 2x - 4$, what is the missing variable shown below?

(A) (2, __)

(B) (__ , 10)

(C) (__ , 0)

PRACTICE

Given the equation $2x + 3y = 10$, what is the missing variable shown below?

(A) (__ , 8)

(B) $(_, -\frac{5}{3})$

(C) (5, __)

EXAMPLE

Given the linear equation $2x + y = -4$, complete the following table.

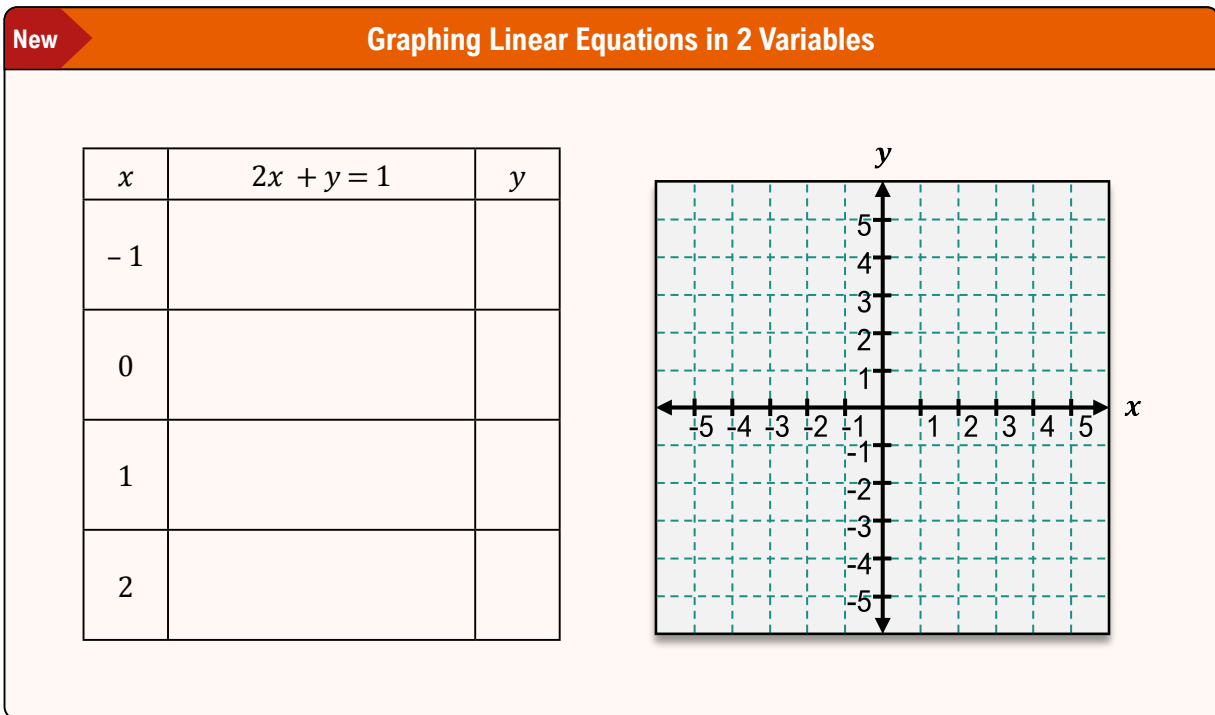
x	y
- 4	
	0
0	
2	
	- 12

TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

Graphing Linear Equations in 2 Variables

◆ Plotting *all* ordered pair solutions of a 2-variable equation gives us the **graph of the equation**.

- To graph a 2-var. linear eqn $Ax + By = C$: **1)** Find ordered pair solns by plugging in ____-values to find ____-values
2) Plot those ordered pairs and connect them with a _____.

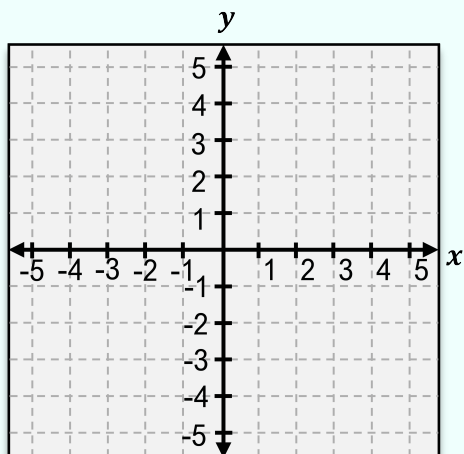


◆ Note: If x -values are ____ given, you will need to choose your own.

TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

EXAMPLE

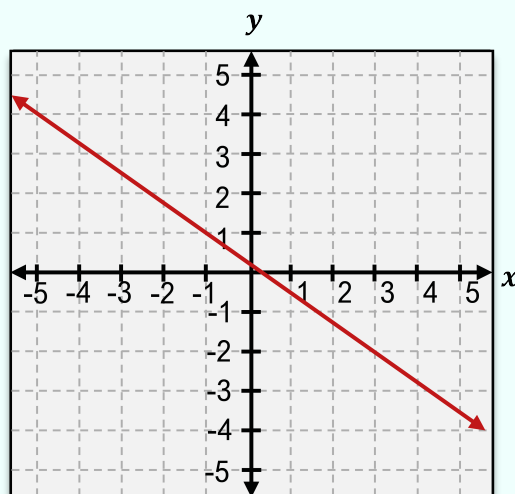
Graph the equation $y = 4x - 3$ below by plotting points and connecting them on the given graph.



EXAMPLE

Consider the graph of $3x + 4y = 1$, are the following ordered pairs solutions to the equation?

- (A) $(0, 1)$
- (B) $(-5, 4)$
- (C) $(3, -2)$



TOPIC: GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

PRACTICE

Graph the given linear equation.

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

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

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