

NAME: _____

Math _____, Period _____

Mr. Rogove

Date: _____

LEARNING OBJECTIVE: We will graph linear equations using the standard form of a linear equation. (G8M4L12)

STANDARD FORM

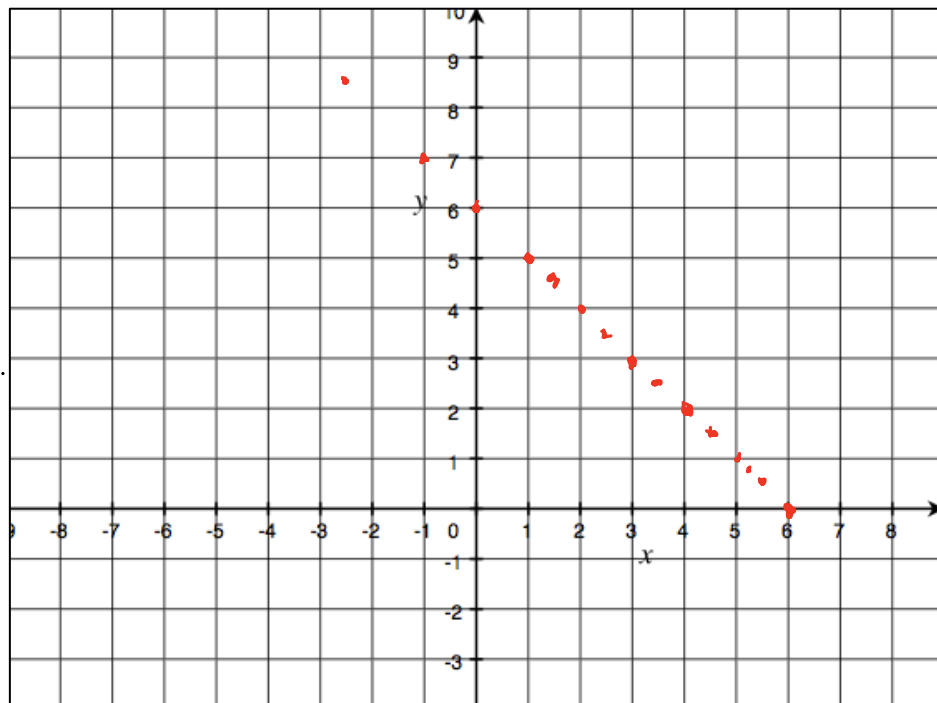
CONCEPT DEVELOPMENT:

We can use the standard form of linear equations ($ax + by = c$) to graph linear equations

Example: $x + y = 6$

x	y
0	6
1	5
2	4
3	3
4	2
6	0
-2.5	8.5
-1	7
1.5	4.5
4.5	1.5
3.5	2.5

2.5 3.5



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GUIDED PRACTICE:

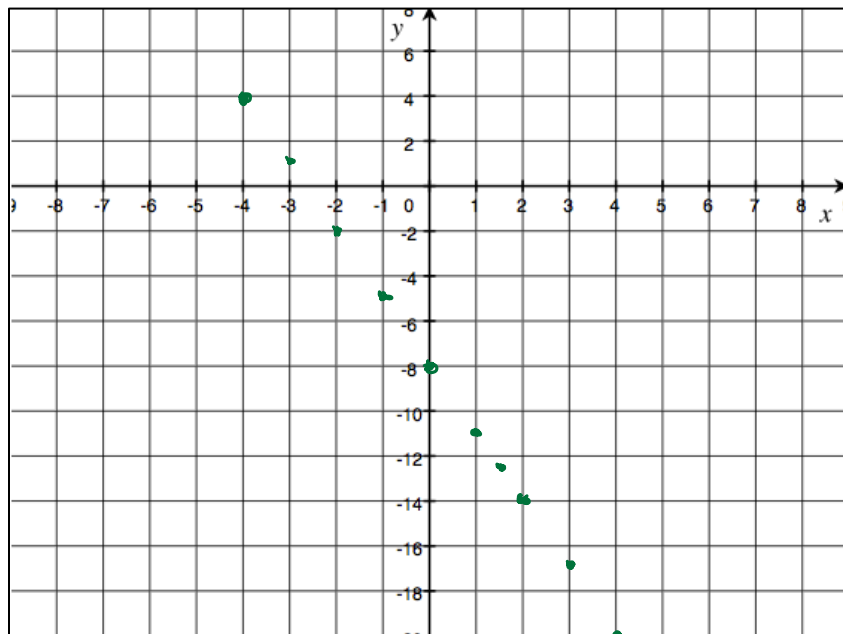
Steps for Finding Solutions to Linear Equations (and Graphing Them)

1. Select a value for x , and find the corresponding y value that will make the equation true.
2. Plot this (x,y) point on the coordinate plane and enter it in the table.
3. Make a determination about the shape of the linear equation.

Find 10 solutions to the linear equation $3x + y = -8$ and plot the points on a coordinate plane.

$$0 + y = -8$$

x	y
1	-11
1.5	-12.5
2	-14
3	-17
4	-20
-1	-5
-2	-2
-3	1
-4	4
0	-8



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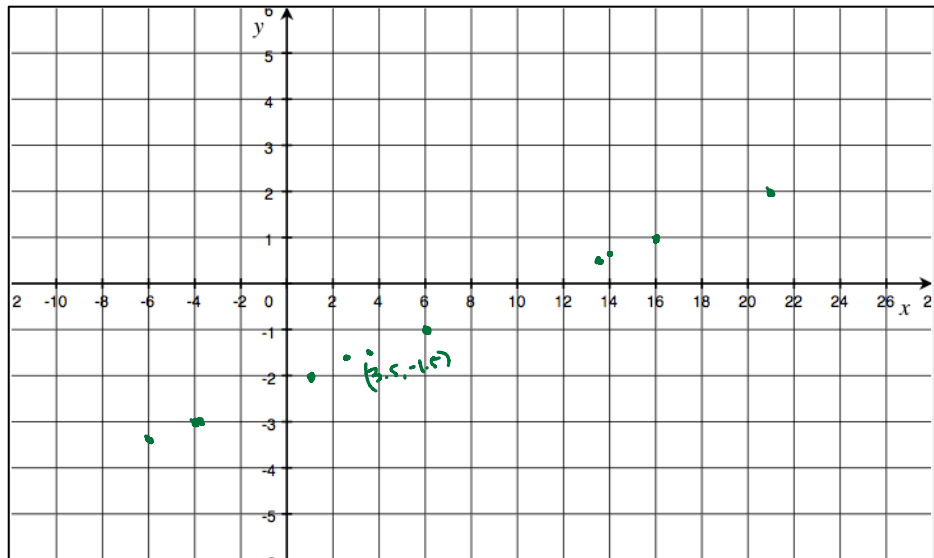
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Find at least 10 solutions to the linear equation $x - 5y = 11$ and plot the points on the coordinate plane.

$$3.5 - 5(-1.5) = 11$$
$$3.5 + 7.5 = 11$$

1. Find at least 3 non-integer (fractions) values for x .
2. Find at least 3 negative values for x .

x	y
1	-2
-4	-3
21	2
6	-1
-6	-3.4
2.5	-1.7
13.5	0.5
16	1
14	0.6
3.5	



- a. Individually/silent!
- b. Compare w/ partner
- c. Add points not in common.

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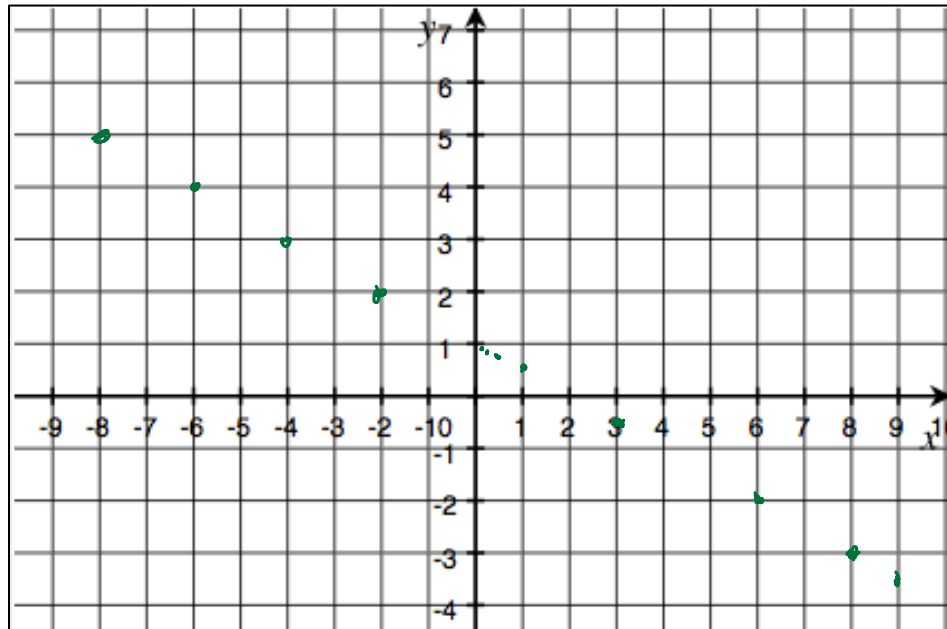
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INDEPENDENT PRACTICE:

Find at least 10 solutions to the linear equation $2x + 4y = 4$ and plot the points on a coordinate plane.

x	y
1	0.5
8	-3
3	-0.5
6	-2
9	-3.5
-2	2
-8	5
18	-8
$\frac{1}{2}$	$\frac{3}{4}$
-6	4



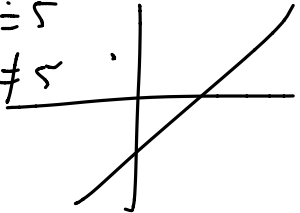
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ACTIVATING PRIOR KNOWLEDGE:

<p>Is $(-1, 2)$ a solution to the linear equation $2x - 2y = 5$?</p> $2(-1) - 2(2) \stackrel{?}{=} 5$ $-2 - 4 \stackrel{?}{=} 5$ $-6 \neq 5$ <p>No!</p> 	<p>Is $(4, -5)$ a solution to the linear equation $x + 3y = -11$?</p> $4 + 3(-5) = -11$ $-11 \stackrel{\checkmark}{=} -11$
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CLOSURE:

Can you write an equation that will graph as something other than a line?

$$3x^2 + 4y^4 = -14, \quad x^5 + 2y = 30$$
$$3x^2 + y^2 = 20$$

TEACHER NOTES:

Lesson 13 and 14 from Engage NY Module 4, grade 8.

Maybe do IM Who has the best job?