

NAME: _____

Math _____, Period _____

Mr. Rogove

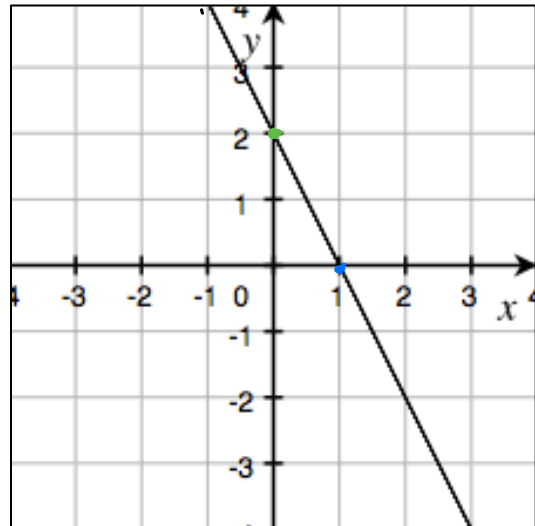
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LEARNING OBJECTIVE: We will graph lines by determining intercepts.
(G8M4L17)

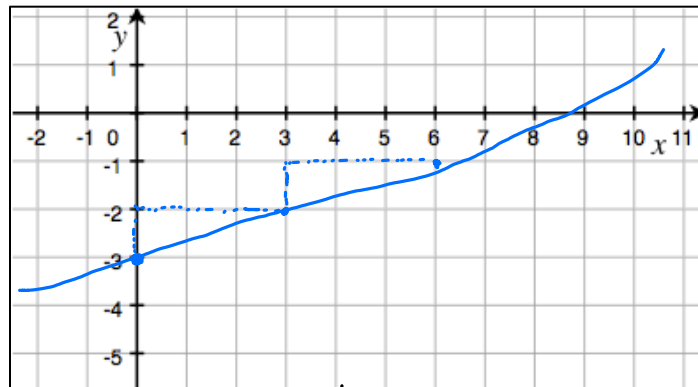
CONCEPT DEVELOPMENT:

y-intercept: The point where a line crosses the y-axis. The coordinate point will be $(0, y)$

x-intercept: the point where a line crosses the x-axis. The coordinate point will be $(x, 0)$

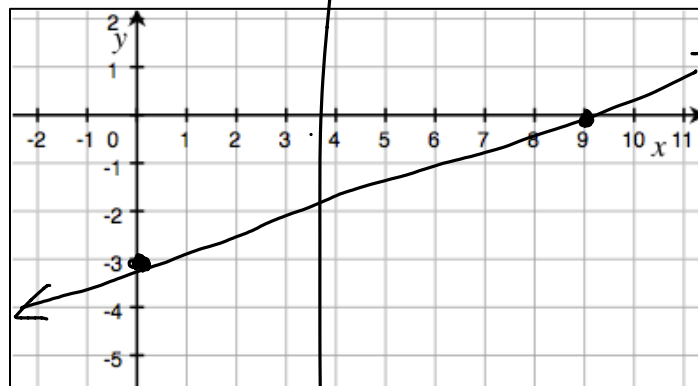


Using slope intercept form to graph a line: graph $y = \frac{1}{3}x - 3$ *y-int.*



Using the standard form to graph a line: graph $x - 3y = 9$

$x=0 \rightarrow y\text{-int.}$
 $0 - 3y = 9$
 $-\cancel{3}y = 9$
 $\frac{-\cancel{3}y}{-\cancel{3}} = \frac{9}{-\cancel{3}}$
 $y = -3$



$x\text{-int} \rightarrow y=0$
 $x - 3(0) = 9$
 $x = 9$

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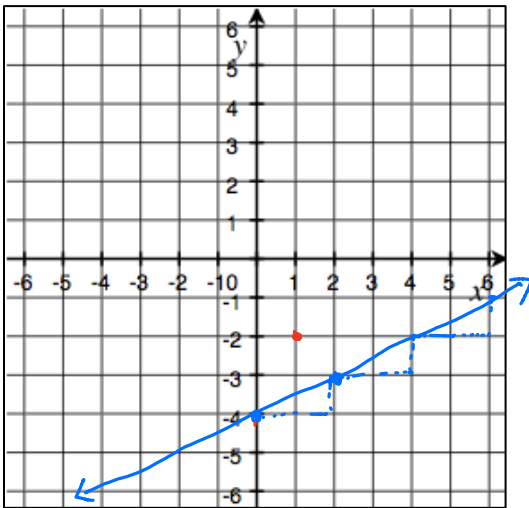
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GUIDED PRACTICE:

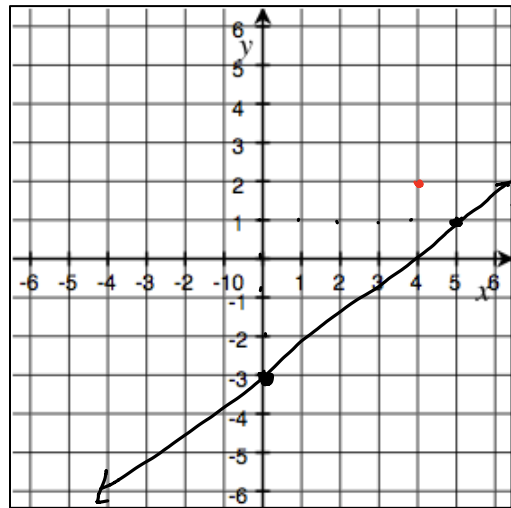
Steps for Graphing Lines Based on Slope Intercept Form ($y = mx + b$)

1. Study the equation, and identify the slope and y-intercept.
2. Graph the y-intercept point on the coordinate plane.
3. Use your knowledge of the slope to graph another point on the plane and connect the dots.

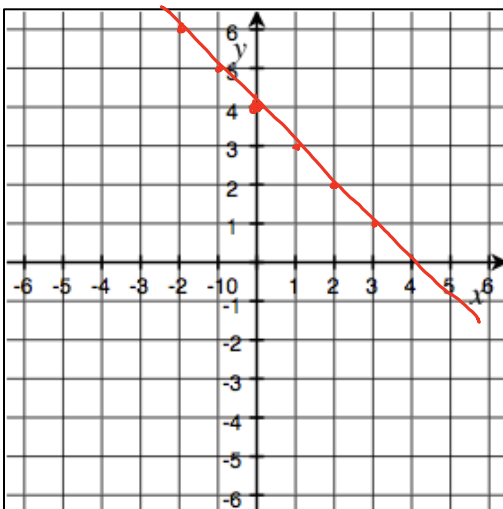
slope $y = \frac{1}{2}x - 4$ y-int.



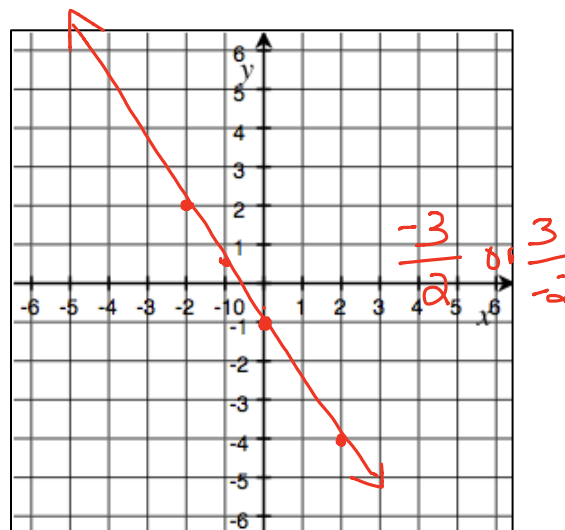
* $y = \frac{4}{5}x - 3$ 2nd point

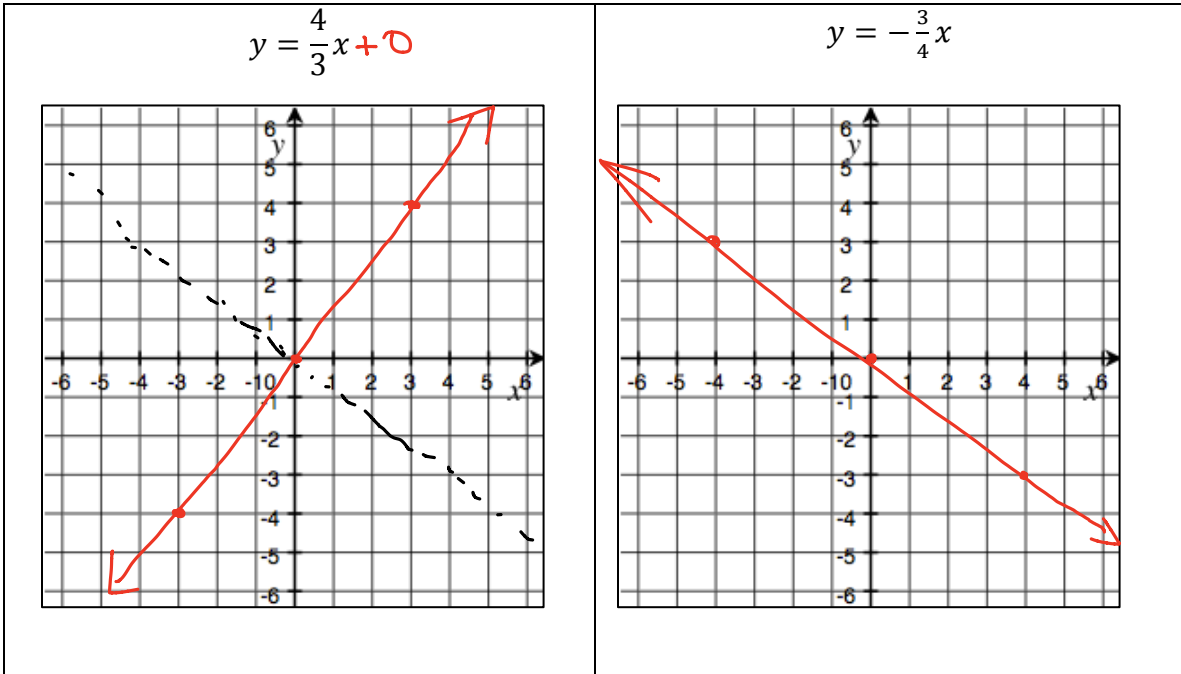


$y = -x + 4$



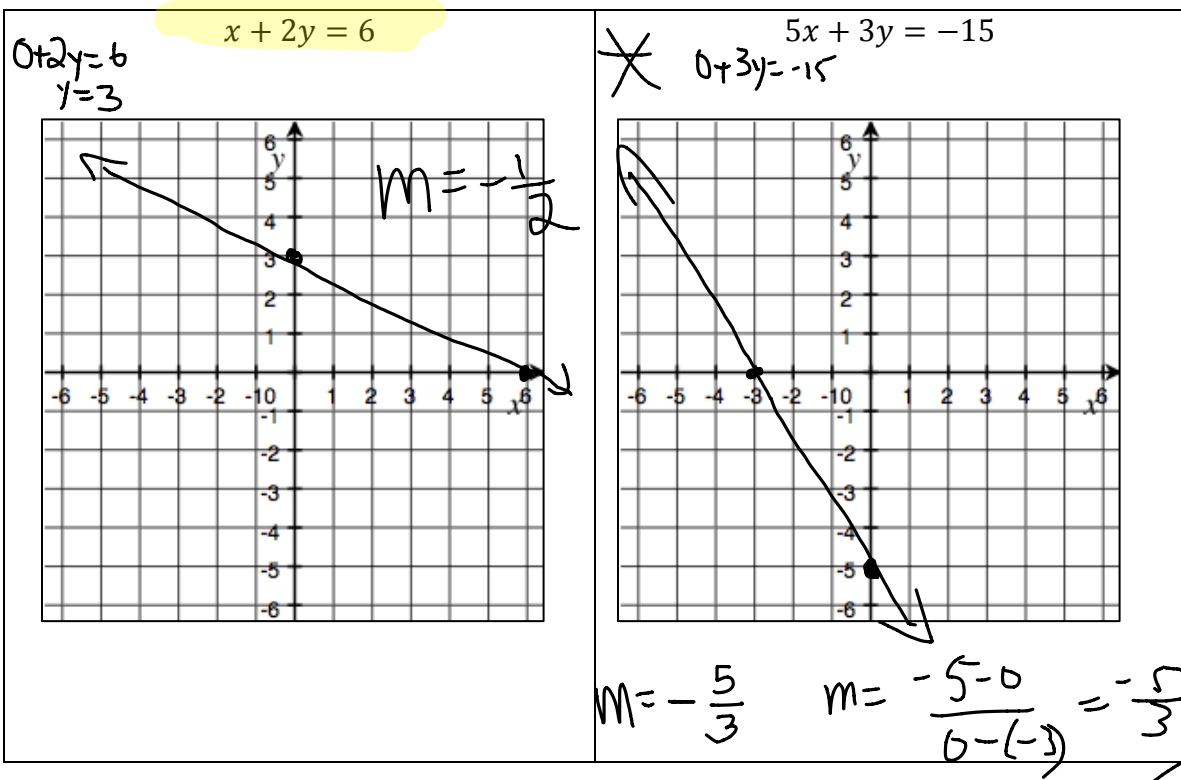
* $y = -\frac{3}{2}x - 1$





Steps for Graphing Lines Based on Standard Form ($ax + by = c$)

1. Find the y -intercept by substituting 0 for a and solving for y . Plot the point.
2. Find the x -intercept by substituting 0 for b and solving for x . Plot the point.
3. Connect the dots on the coordinate plane to form your line.

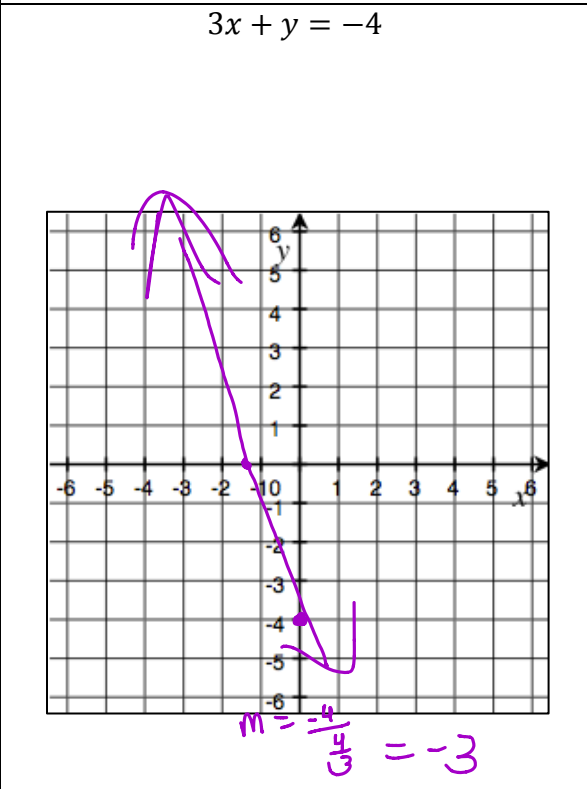
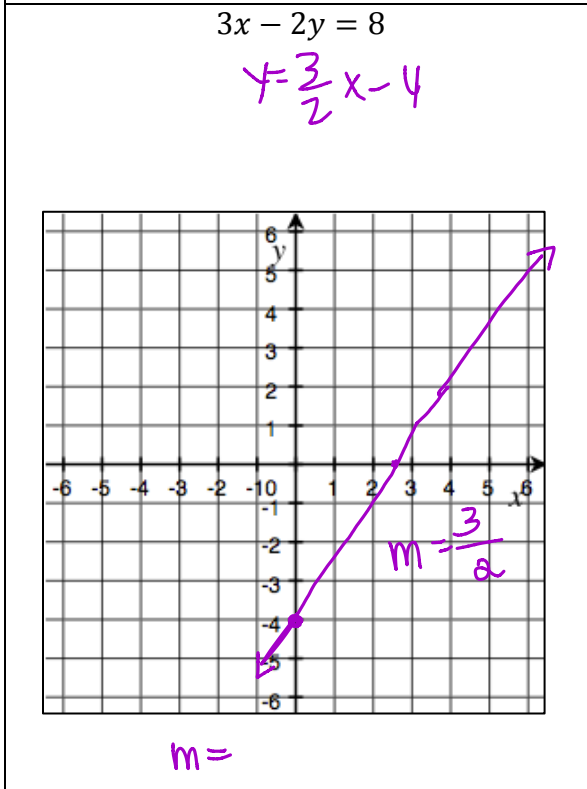
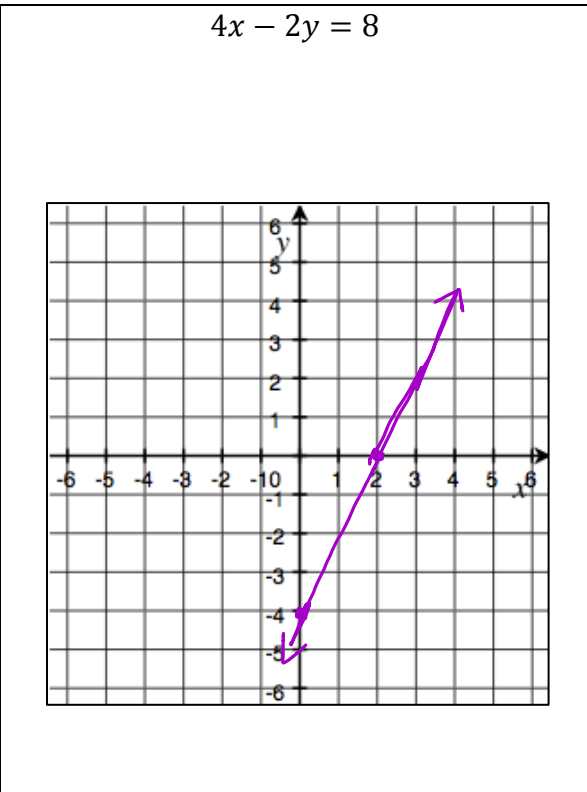
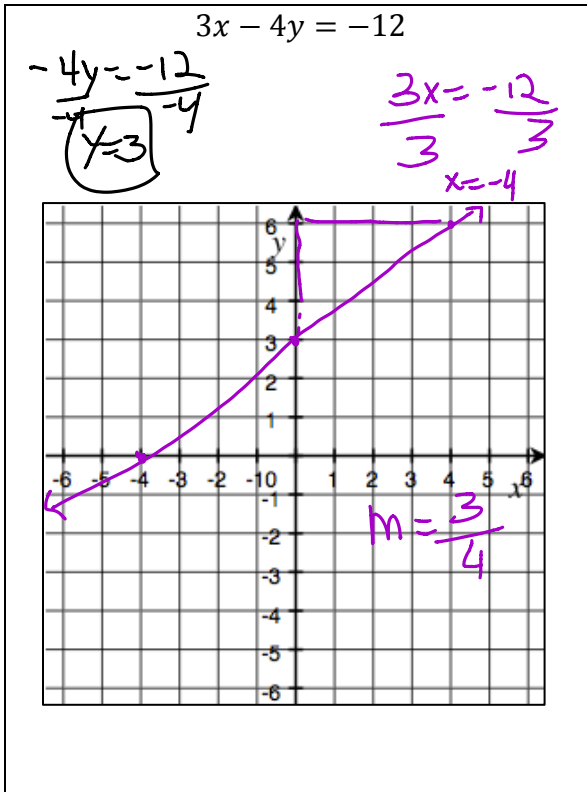


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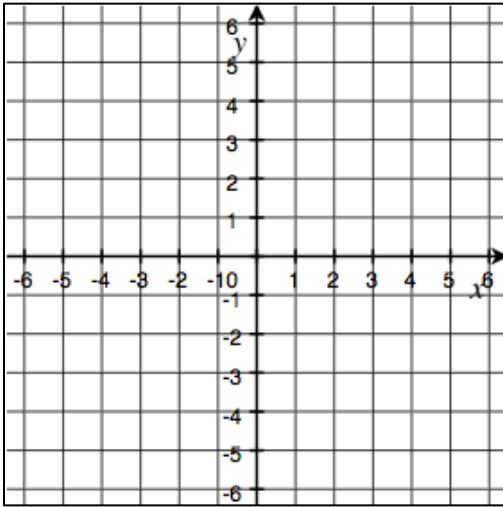
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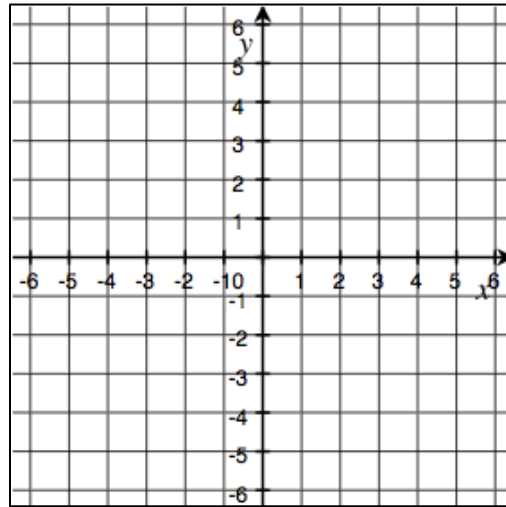
INDEPENDENT PRACTICE:

Graph the lines for each of the following equations

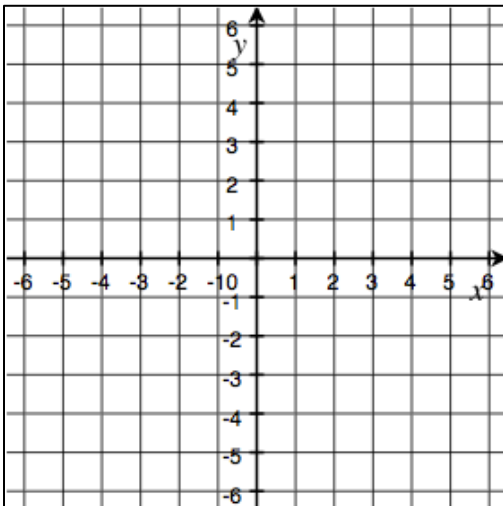
$$y = \frac{2}{3}x - 5$$



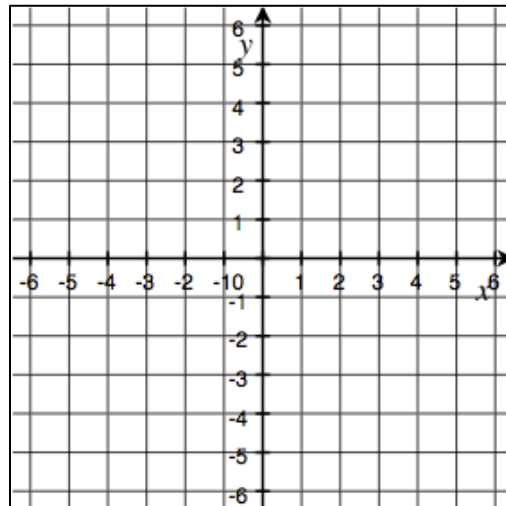
$$5x + 6y = -30$$



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



$$2x - 4y = 10$$



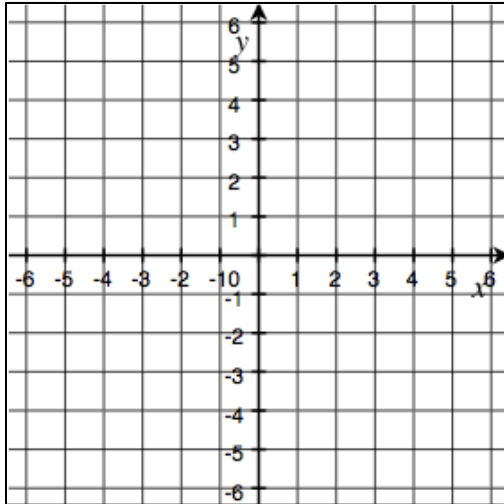
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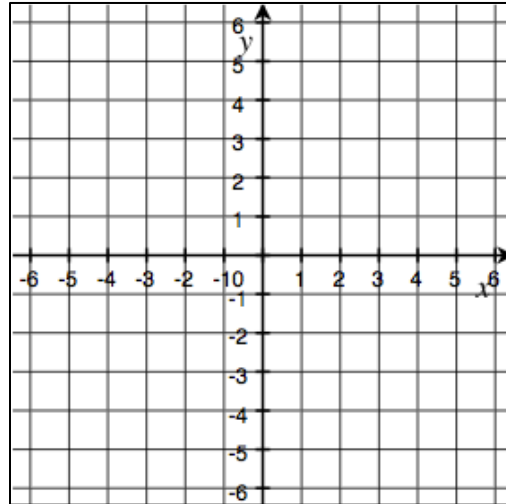
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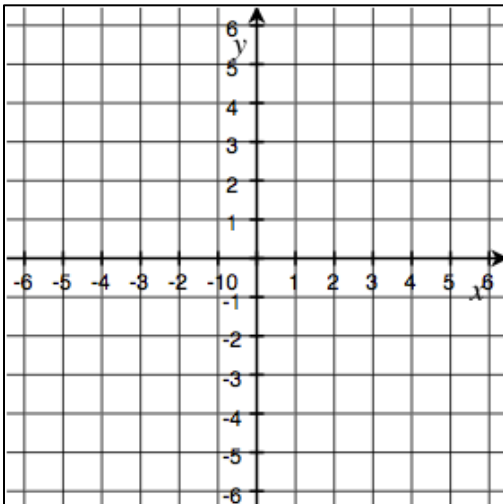
$$y = -x + 2$$



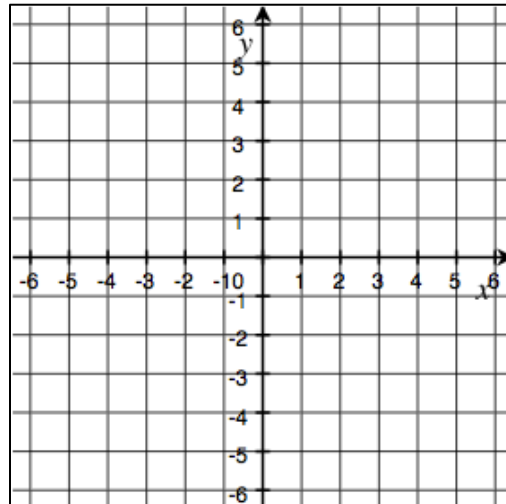
$$y = -\frac{3}{5}x + 3$$



$$y = 5x - 4$$



$$2x - 2y = -7$$



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ACTIVATING PRIOR KNOWLEDGE:

We can rewrite from standard form to slope intercept form

$3x - 4y = 8$ $\begin{array}{r} -3x \\ -4y = -3x + 8 \\ -4 \end{array}$ $y = \frac{3}{4}x - 2$	$5x + 2y = -3$ $\begin{array}{r} -5x \\ 2y = -5x - 3 \\ 2 \end{array}$ $y = -\frac{5}{2}x - \frac{3}{2}$
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CLOSURE:

A bank put \$10 into your savings account when you opened the account. Eight weeks later, you have a total of \$24. Assume you saved the same amount every week. Write a linear equation in slope intercept form that shows the total amount of money (y) saved in x weeks.

Or give exit ticket from lesson 19 ENY Grade 8 Module 4.

TEACHER NOTES:

Lesson 18 (graphing with b as intercept) Lesson 19 (graphing with x and y intercept) Look at add'l questions for exercises for lesson 19.