11/19/2015

★ Sometimes you are given a linear equation that isn't in Slope intercept form like we've seen ($y = mx + b$)

★ Standard Form- $Ax + By = C$

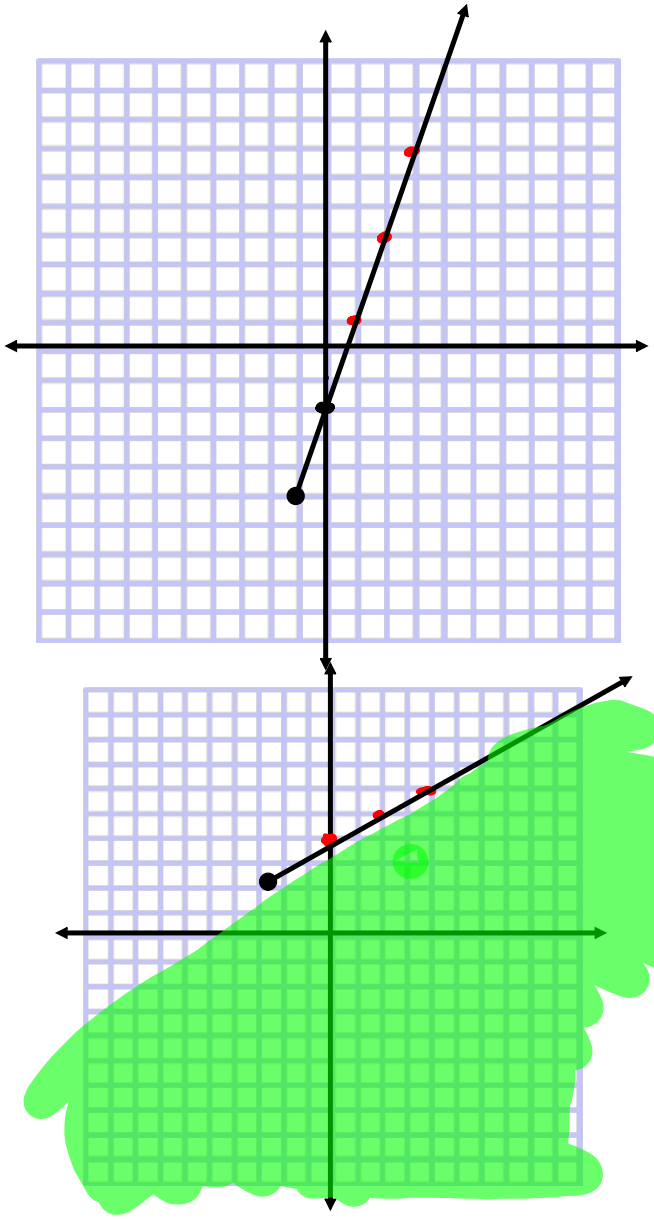
Ex. $3x - 5y = 25$

★ We can go from Standard form → to Slope-intercept form by solving for y.

① $y = 3x - 2$

-2: y-int

Slope $= \frac{3}{1}$



② $y \leq \frac{1}{2}x + 4$

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

$\leq$

Solid

Below

Systems of equations solutions by graphing

$$\begin{cases} y = -3x + 2 \\ y = 2x - 3 \end{cases}$$

$y = -3x + 2$

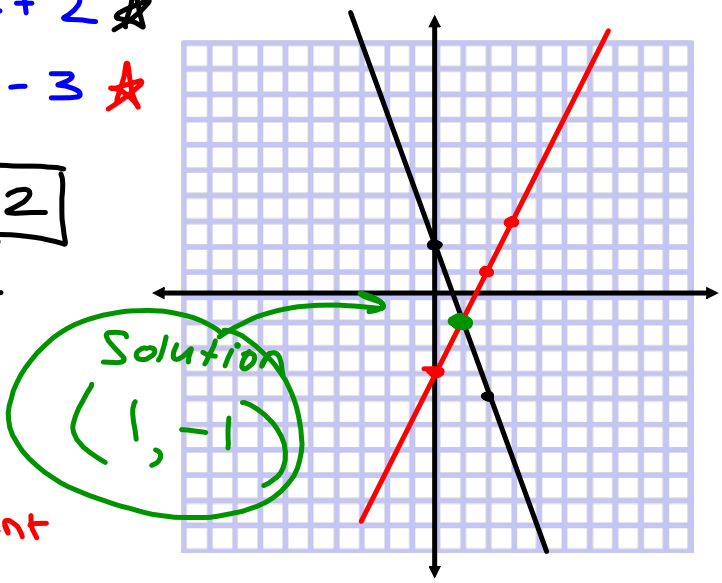
$+2$: y-int

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

$y = 2x - 3$

-3 : y-int

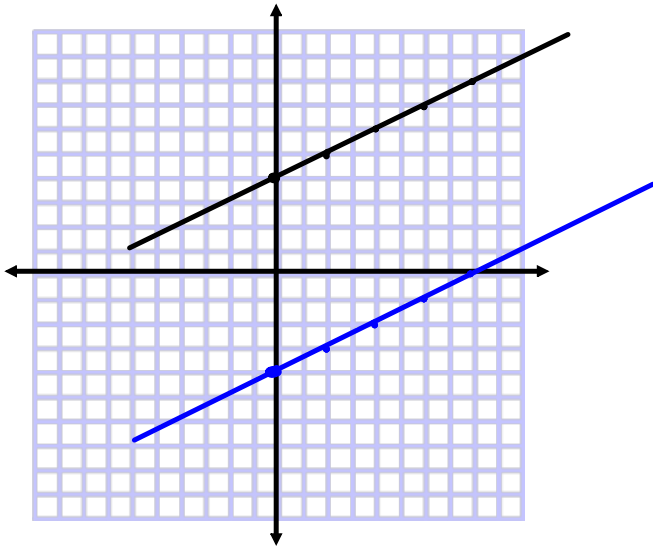
Slope $= \frac{2}{1}$



$$\begin{cases} y = \frac{1}{2}x + 4 \\ y = \frac{1}{2}x - 4 \end{cases}$$

* Parallel lines will always have the same slope

* No solution



Ex

$$3x - 5y = 25$$

Go from standard form to slope intercept form.

$$3x - 5y = 25$$

$$-3x \qquad -3x$$

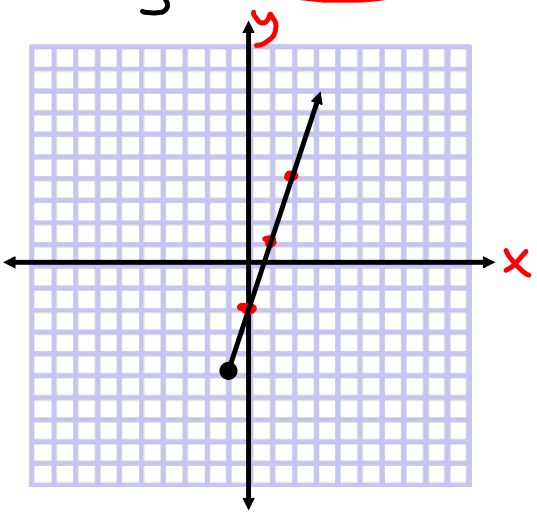
$$\frac{-5y}{-5} = \frac{-3x + 25}{-5}$$

$$y = \frac{-3}{-5}x + \frac{25}{-5}$$

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

① graph

$y = 3x - 2$ ← y-int



Slope = $\frac{3}{1}$

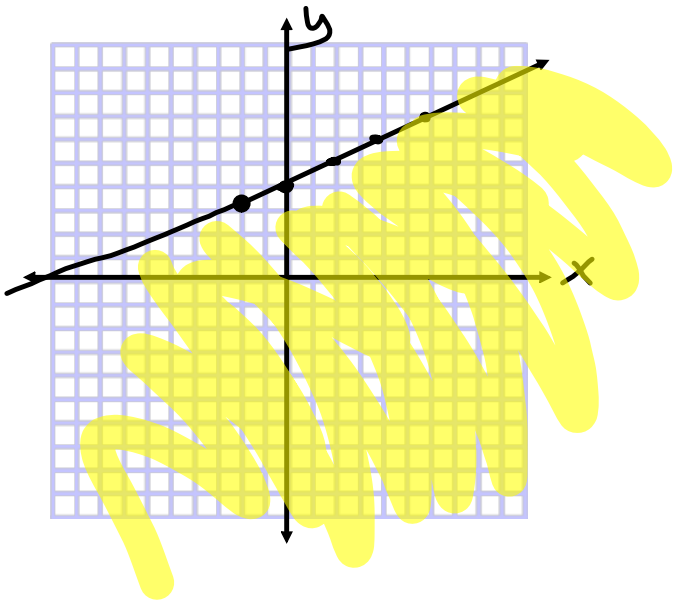
$y \leq \frac{1}{2}x + 4$

y-int

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

$\leq$

- Below
- Solid



③

$3x - 5y = 25$

Solve for y

$-3x \quad -3x$

$\frac{-5y}{-5} = \frac{-3x + 25}{-5}$

$y = \frac{-3}{-5}x + \frac{25}{-5}$

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