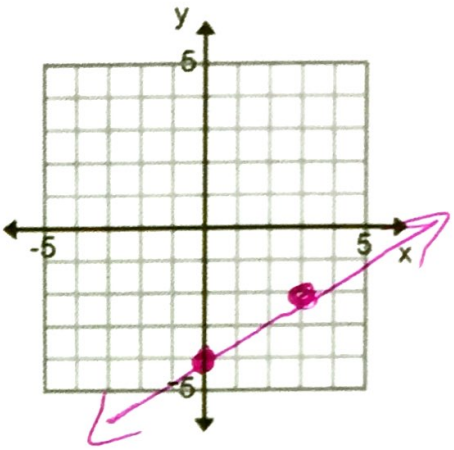
Warm-up:

Use the slope and the *y*-intercept to graph.

$y = mx + b$

1. $y = \frac{2}{3}x - 4$

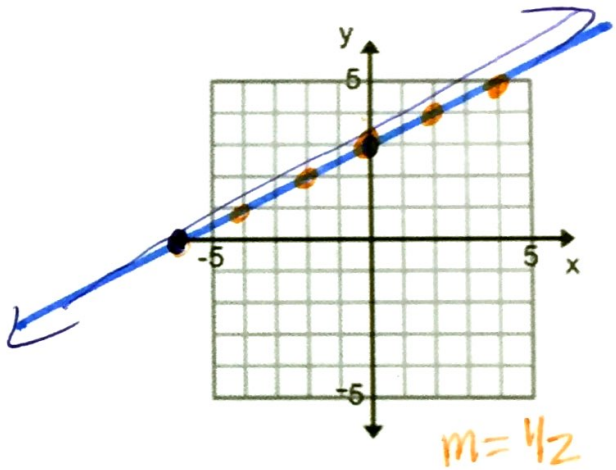


$m = \frac{2}{3}$

$b = -4$

Use the *x*- and *y*-intercepts to graph.

2. ~~$2x$~~ $+ 4y = 12$



$(-6, 0)$

$(0, 3)$

$\frac{-2x}{-2} + \frac{12}{-2}$

$\frac{4y}{4} = \frac{12}{4}$

$m = 1/2$

$b = 3$

Change to slope-intercept form:

$y = mx + b$

Solve for y.

$-2x + 4y = 12$

$+2x \quad +2x$

$\frac{4y}{4} = \frac{2x}{4} + \frac{12}{4}$

$y = \frac{1}{2}x + 3$

$y = mx + b$

Steps:

1. Put a box around y
2. Move the stuff ~~farthest~~ away from y to the other side.
3. Divide EACH term.
4. Simplify

Ex. 1: Change the following equation to slope-intercept form and graph.

$y = mx + b$

$-2x + 3y = 6$ Solve for y.

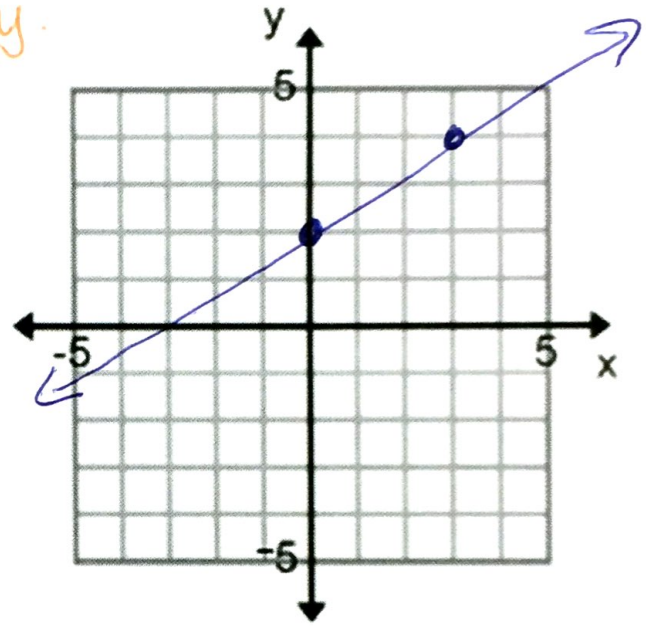
$+2x \quad +2x$

$\frac{3y}{3} = \frac{2x}{3} + \frac{6}{3}$

$y = \frac{2}{3}x + 2$

$m = 2/3$

$b = 2$



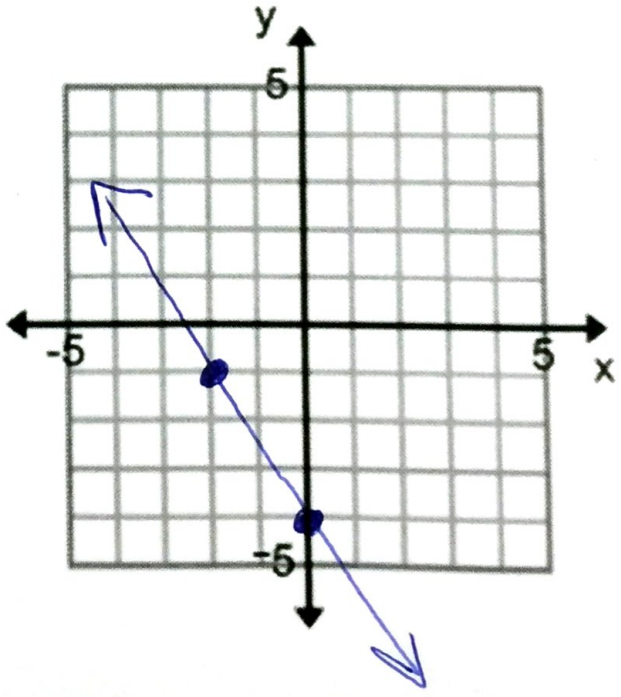
Ex. 2: Change the following equation to slope-intercept form and graph.

$3x + 2y = -8$

$-3x \quad -3x$

$\frac{2y}{2} = \frac{-3x}{2} - \frac{8}{2}$

$y = -\frac{3}{2}x - 4$



Change to slope-intercept form. (Solve for y).

Ex. 3: $-4x + 3y = 9$

$+4x \qquad +4x$

$$\frac{3y}{3} = \frac{4x}{3} + \frac{9}{3}$$

$$y = \frac{4}{3}x + 3$$

Ex. 4: $5x - 2y = 6$

$-5x \qquad -5x$

$$\frac{-2y}{-2} = \frac{-5x}{-2} + \frac{6}{-2}$$

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

Ex. 5: $7x + 5y = 35$

$-7x \qquad -7x$

$$\frac{5y}{5} = \frac{-7x}{5} + \frac{35}{5}$$

$$y = -\frac{7}{5}x + 7$$