

Name

3.5

# Graph Using Slope-Intercept Form

Alg I

I can graph linear equations using slope-intercept form.

Slope-Intercept Form:  $y = mx + b$   
where  $m$  is the slope and  $b$  is the  $y$ -intercept

$$y = mx + b$$

Example 1:

1)  $y = 5x - 3$

Slope ( $m$ ) = 5  
y-intercept ( $b$ ) = -3

2)  $3x - 3y = 12$   
 $\quad -3x \quad -3x$

$$\begin{aligned} -3y &= 12 - 3x \\ \frac{-3y}{-3} &= \frac{12}{-3} - \frac{3x}{-3} \\ y &= -4 + x \\ y &= 1x - 4 \end{aligned}$$

Slope ( $m$ ) = 1  
y-intercept ( $b$ ) = -4

3)  $x + 4y = 6$   
 $\quad -x \quad -x$

$$\begin{aligned} 4y &= 6 - x \\ \frac{4y}{4} &= \frac{6}{4} - \frac{x}{4} \\ y &= \frac{3}{2} - \frac{1}{4}x \\ y &= -\frac{1}{4}x + \frac{3}{2} \end{aligned}$$

Slope ( $m$ ) =  $-\frac{1}{4}$   
y-intercept ( $b$ ) =  $\frac{3}{2}$

Example 2:

$$y = -2x + 5$$

slope ( $m$ ) = -2 or  $-\frac{2}{1}$   
y-intercept ( $b$ ) = 5 (0, 5)

