



## Graphing Linear Equations Using the Slope-Intercept Form (page 1)

A linear equation of the form  $y = mx + b$  is said to be in **slope-intercept** form. The slope is  $m$  and the  $y$ -intercept is  $b$ . This form can make graphing a linear equation easy.

*Procedure:*

1. Rewrite (as necessary) original equation in function form.
2. Identify  $m$  as slope and  $b$  as  $y$ -intercept.

*Example:* Identify the slope and the  $y$ -intercept for the given equation

(a)  $y = x - 2$

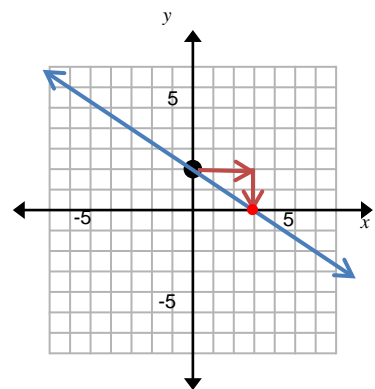
(b)  $2x + 3y = 9$

$y = x - 2$	original equation
$y = 1x + (-2)$	rewrite
slope is 1 and	
y-intercept is $-2$	identify

$2x + 3y = 9$	original equation
$3y = -2x + 9$	subtract $2x$ from both sides
$y = -\frac{2}{3}x + 3$	divide both sides by 3
slope is $-\frac{2}{3}$ and the $y$ -intercept is 3	

*Procedure/Example:* Graph  $y = -\frac{2}{3}x + 2$

1. Identify the  $y$ -intercept (2) and plot the point (0, 2).
2. Identify the slope.  $-\frac{2}{3} = \frac{-2}{3}$  Starting at (0, 2), move 3 units to the right (since 3 is +) and 2 units down (since 2 is negative)—plot another point.
3. Draw a line through the two points.

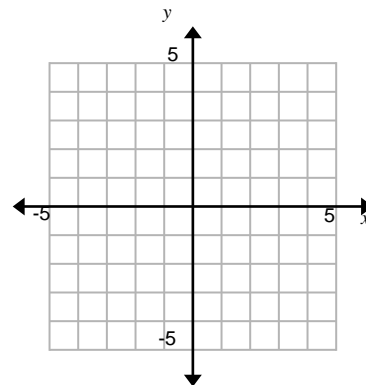
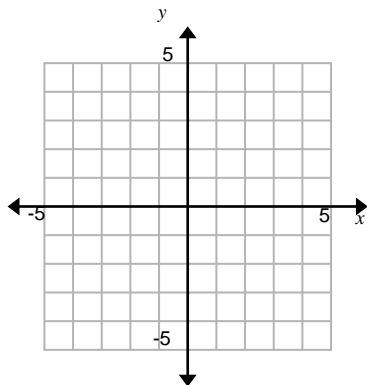
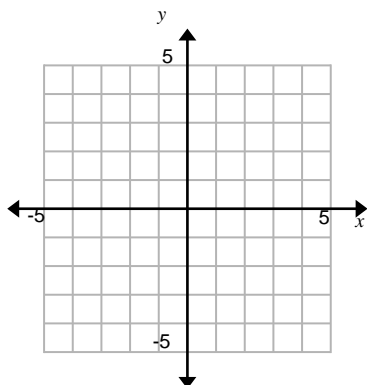


**Identify the slope and  $y$ -intercept for the following equations. Graph.**

1.  $y = 2x + 3$

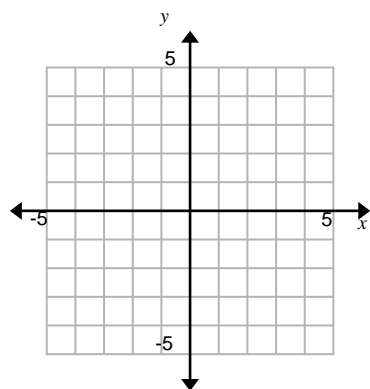
2.  $y = x - 3$

3.  $y = -2x + 4$

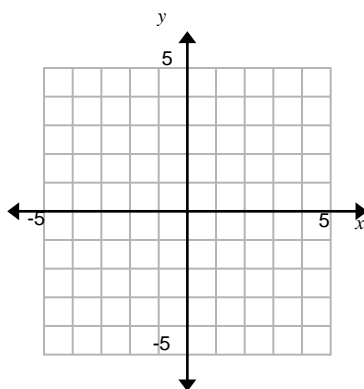


## Graphing Linear Equations Using the Slope-Intercept Form (page 2)

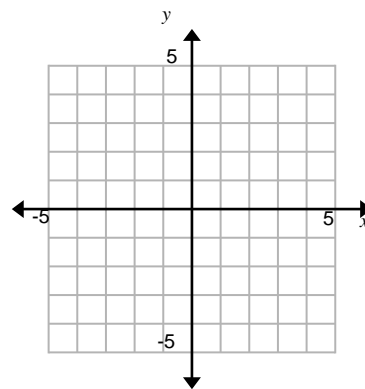
4.  $x + 2y = 6$



5.  $6x - 3y = 12$

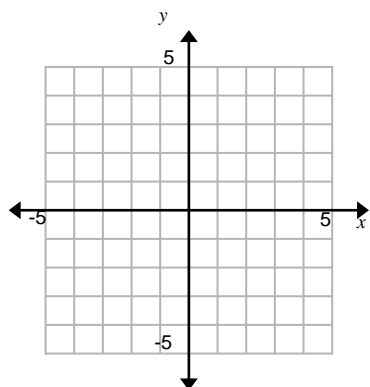


6.  $-3x + 4y = 4$

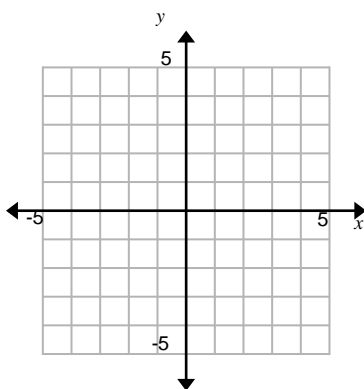


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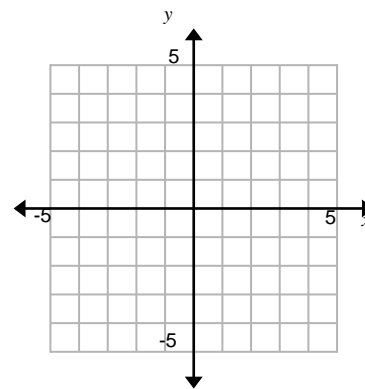
7.  $3x - y = -4$



8.  $3x - 4y = 2$



9.  $x - y = -3$



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10.  $2x + 3y = 0$

