Graphs and Equations

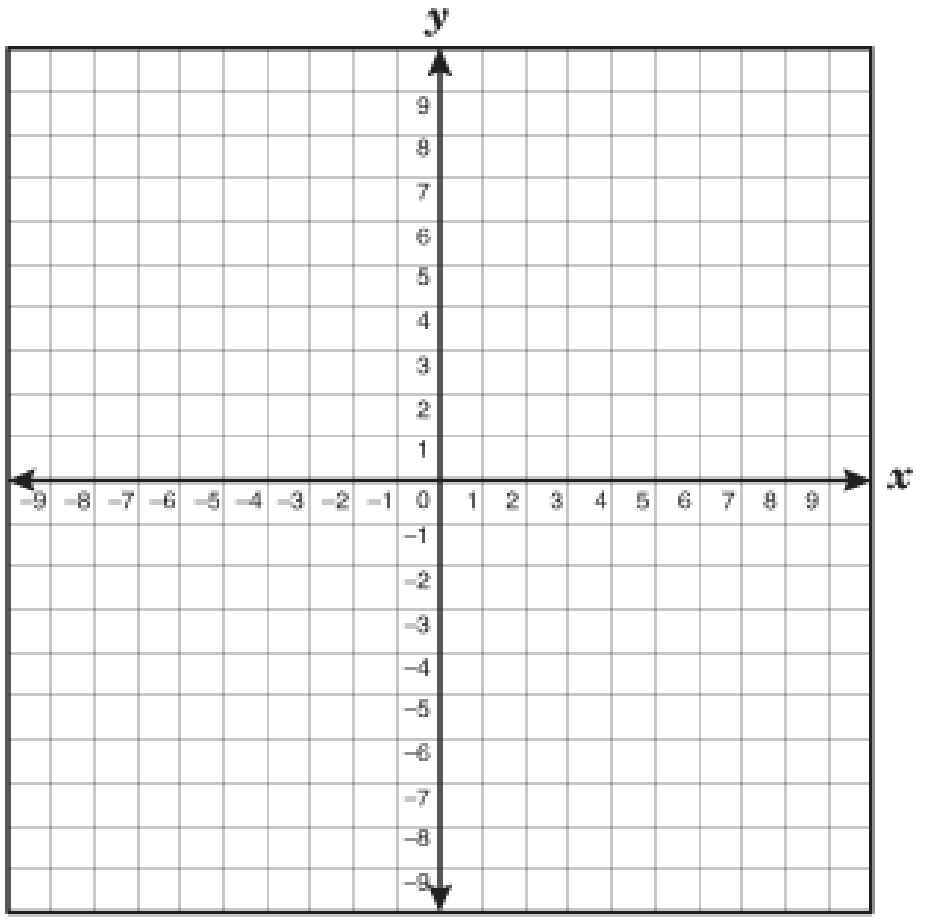
Overview of Graphing

Graphing Lines by Plotting Points

Example: Create a table of ordered pairs for the following equation and make a plot of the equation.

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

x	y	Point



Graphing Lines in Slope-Intercept Form

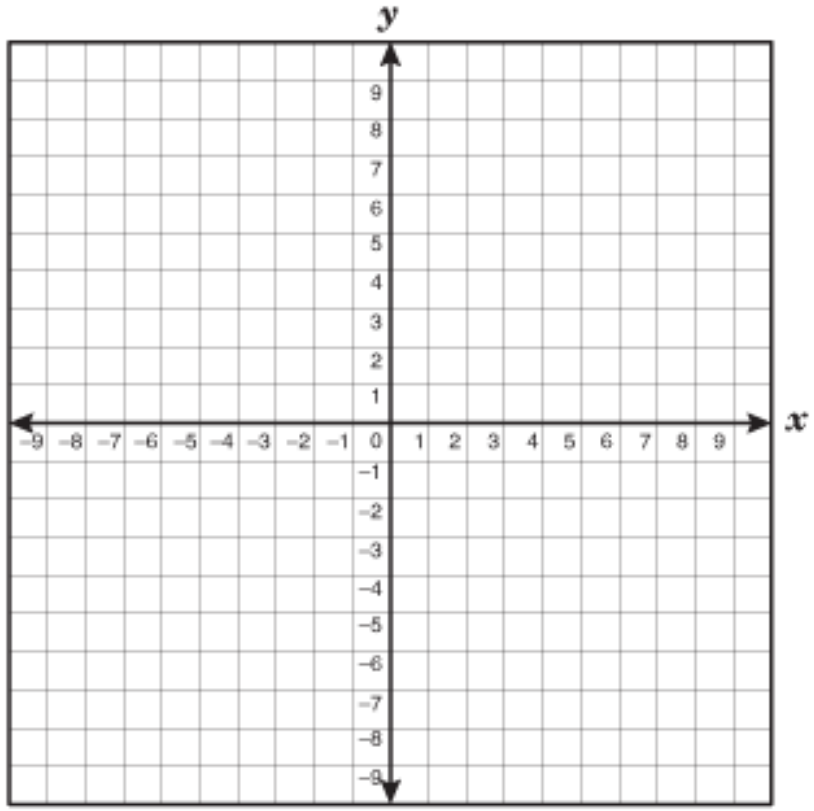
$$y = mx + b$$

Example: Graph the following equations in slope-intercept form.

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

Slope:_____

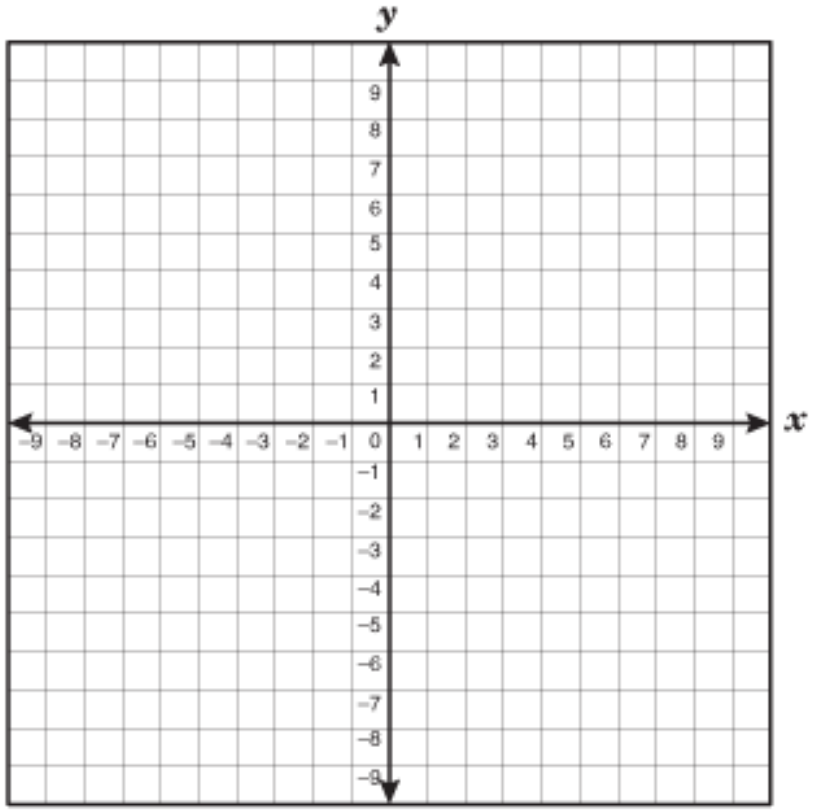
y-intercept:_____



$$y = -2x + 3$$

Slope:_____

y-intercept:_____



Graphing Lines in Point-Slope Form

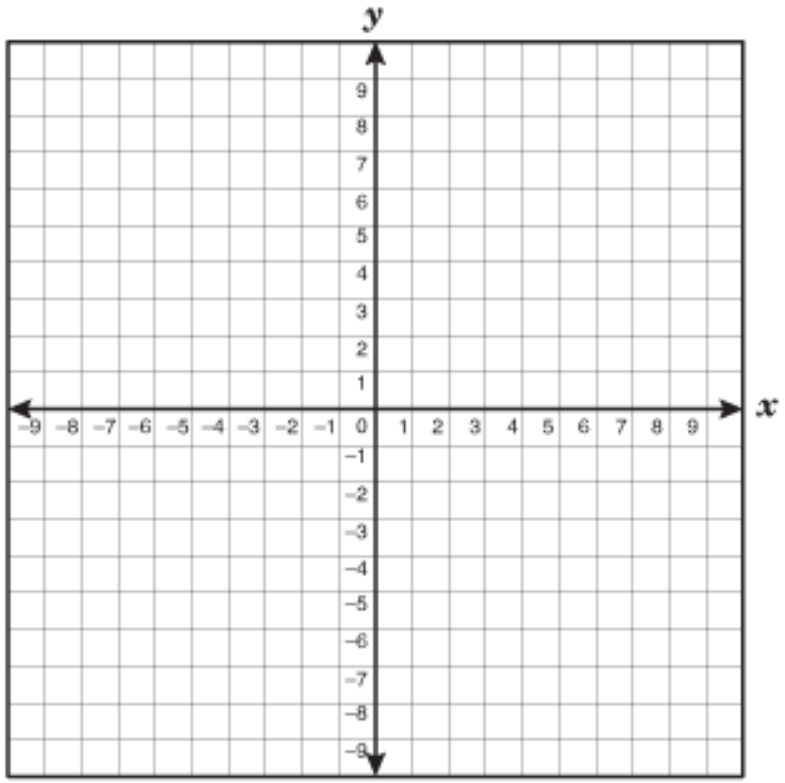
$$y = m(x - x_o) + y_o$$

Example: Graph the following equations by identifying the slope and one point on this line.

$$y = -\frac{3}{2}(x-1)+5$$

Slope:_____

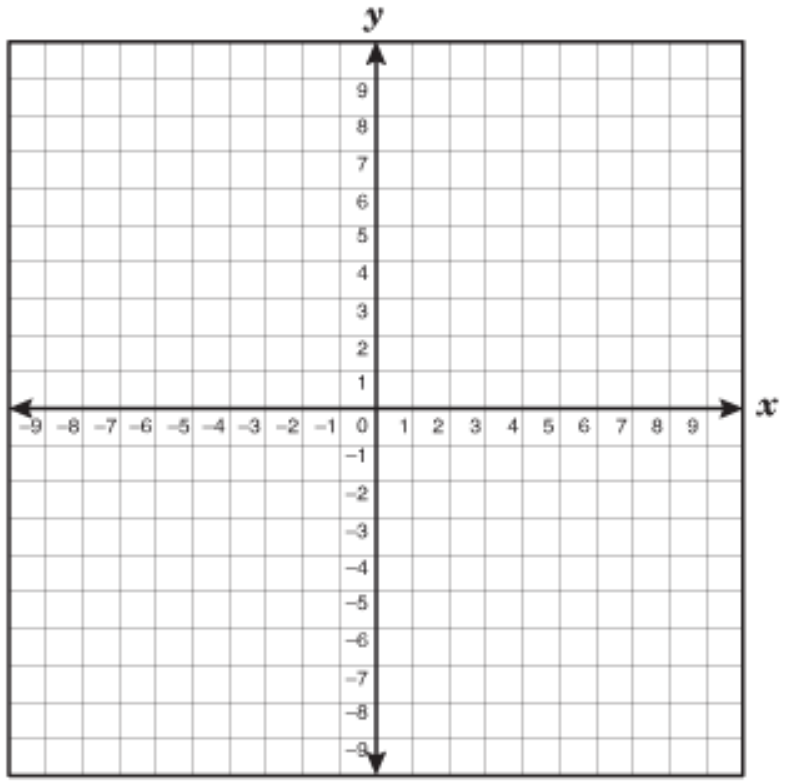
Point:_____



$$y = 4(x+3)-2$$

Slope:_____

Point:_____



Graphing Lines Using Intercepts

$$Ax + By = C$$

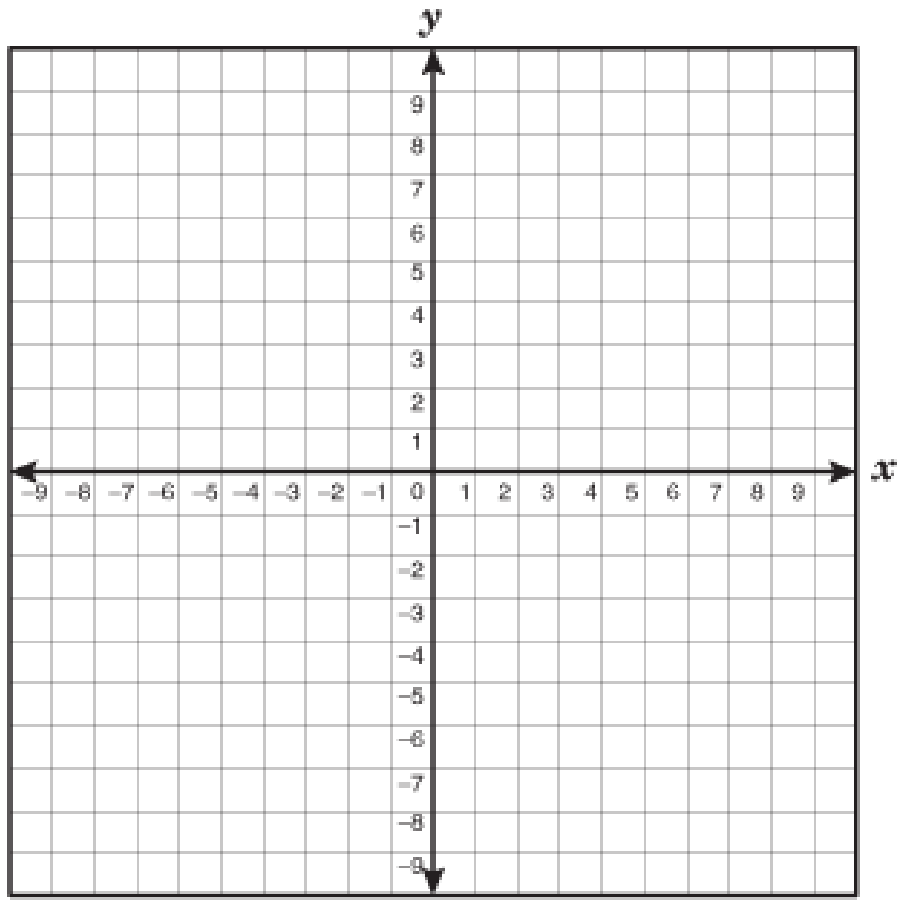
Example: Find the *x* and *y* intercepts of the line with the equation given. Then find one other point on the line. Use your results to graph the line.

$$2x - 3y = 12$$

x-intercept:_____

y-intercept:_____

Point:_____



Graphing Functions by Plotting Points

Example: Create a table of ordered pairs for the following equation and make a plot of the equation.

$$y = -x^2 - 3x + 5$$

x	y	Point