Standard and Point-Slope Form of a Line

Standard Form - use when asked to write the equation of a line in standard form

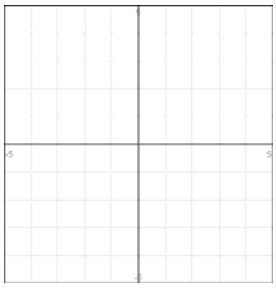
$$Ax + By = C$$

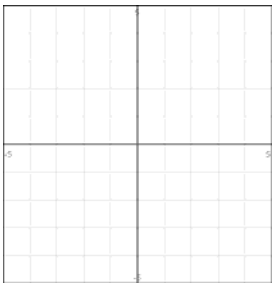
$2x - 3y = 10$ $\qquad$ $-5x - y = 9$

Slope-Intercept Form - use when asked to graph a line

$$y = mx + b$$

$y = 3x - 1$ $\qquad$ $y = -x$





Point-Slope Form - use when asked to write the equation of a line

$$y - y_1 = m(x - x_1)$$

Given: $m = \frac{1}{2}$, $(4, -3)$ $\qquad$ Given: $(-5, 2)$, $(4, -3)$

1. Write each equation in standard form and in slope-intercept form. Identify the slope and the y-intercept.

   a) $6y = -2x - 13$

   b) $3x + 5y + 7 = 0$

c) $3x = 7y$

d) $6x - 8 = 2y + 1$

e) $x = \frac{2}{5}y + 7$

2. Write an equation in slope-intercept form for the line that contains the given point and the given slope.

a) $m = -4,\ \ (-2, -5)$

b) $m = \frac{1}{3},\ \ (2, -4)$

c) $m = 0,\ (1,7)$

d) $m =$ undefined, $(0,-4)$

3. Write an equation in slope-intercept form for the line that contains the given points.

a) $(-7,-3),\ (6,8)$

b) $(0,-4),\ (4,2)$

c) $(0,8),\ (2,8)$

d) $(-3,4),\ (-3,7)$