Name: _____ Date: _____

BLM 7–9

Section 7.3 Extra Practice

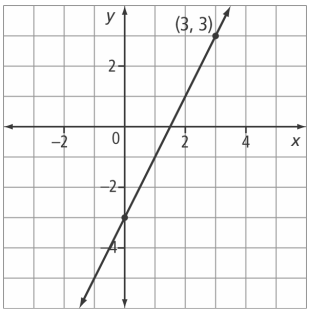
1. Rewrite each equation from slope-point form to slope-intercept form, $y = mx + b$, and general form, $Ax + By + C = 0$.

a) $y - 4 = 5(x - 3)$ **b)** $y + 1 = \frac{3}{4}(x + 2)$

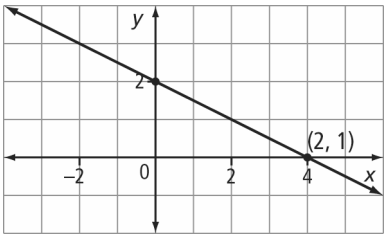
c) $y - \frac{1}{2} = x - 5$ **d)** $y + \frac{3}{5} = 2\left(x - \frac{3}{2}\right)$

2. Write an equation in slope-point form, $y - y_1 = m(x - x_1)$, of each line passing through the given point.

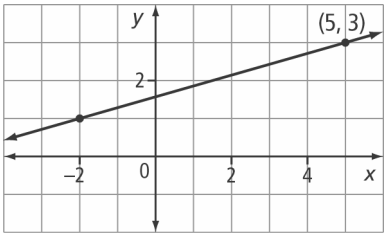
a)



b)



c)



3. Determine the equation of each line using the slope-point form. Then, express each equation in slope-intercept form and in general form.

a) (–3, 4), $m = -5$ **b)** $\left(\frac{1}{2}, 1\right)$, $m = 2$

c) (0, 3), $m = 3$ **d)** (–5, 0), $m = \frac{1}{2}$

4. Use slope-point form to determine an equation of a line through each pair of points. Express each equation in the form $y = mx + b$ and in the form $Ax + By + C = 0$.

a) (6, 3) and (1, –2) **b)** (0, 5) and (6, 3)

c) (–3, 4) and (–5, 0) **d)** (1, 2) and (–8, 5)

5. Identify the slope and one point on each line. Sketch a graph of each line.

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

b) $y + 4 = \frac{4}{3}(x - 1)$

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

d) $y - 5 = -4(x + 0.4)$

6. Write the equation of each line using slope-point form. Convert to slope-intercept form.

a) slope of 0 and through (–5, –6)

b) same slope as $y = 2x - 5$ and through (4, 1)

c) slope of $-\frac{1}{2}$ and the same x-intercept as the line $3x - 2y = 12$

7. What is the equation of each line in slope-point form? Convert each equation to general form.

a) same x-intercept as the line $y = 3x - 4$ and through (0, 5)

b) x-intercept of –5 and y-intercept of 4

c) same slope as $2x - 5y + 6 = 0$ and through the origin