

3.3.11- Point-Slope Form $y - y_1 = m(x - x_1)$

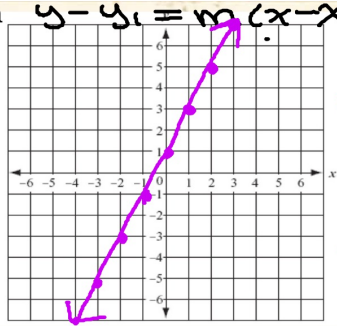
1. Graph the line:

$$y - 3 = 2(x - 1)$$

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

$$m = 2/1$$

$$(1, 3)$$



1) Plot Point
2) Move the Slope
- starting at the point

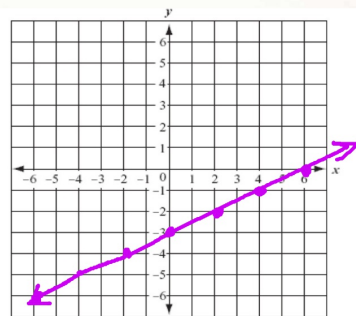
2. Graph the line:

$$y + 1 = \frac{1}{2}(x - 4)$$

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

$$m = \frac{1}{2}$$

$$(4, -1)$$



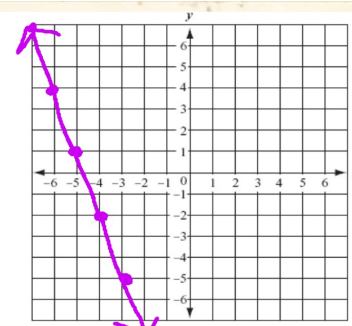
3. Graph the line:

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

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

$$m = -3/1$$

$$(-4, -2)$$

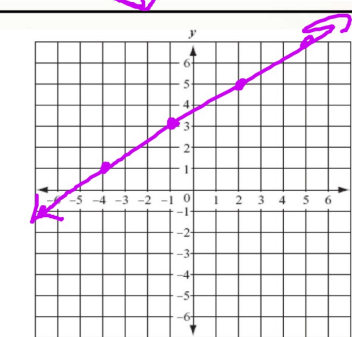


4. Graph the line:

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

$$m = 2/3$$

$$(-1, 3)$$



5. Write two possible equations for the given line in point-slope form.

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

$$\text{Pt } (3, 5)$$

$$x_1, y_1$$

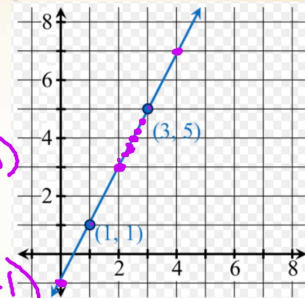
$$\textcircled{1} y - 5 = 2(x - 3)$$

$$\text{Pt } (1, 1)$$

$$x_1, y_1$$

$$\textcircled{2} y - 1 = 2(x - 1)$$

$$m = \frac{4}{2} = 2$$



6. Write two possible equations for the given line in point-slope form.

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

$$\text{Pt } (3, 5)$$

$$x_1, y_1$$

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

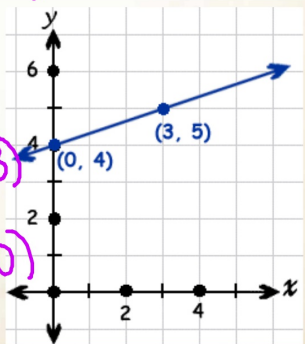
$$\text{Pt } (0, 4)$$

$$x_1, y_1$$

$$\textcircled{2} y - 4 = \frac{1}{3}(x - 0)$$

$$m = \frac{1}{3}$$

$$\frac{\text{rise}}{\text{run}}$$



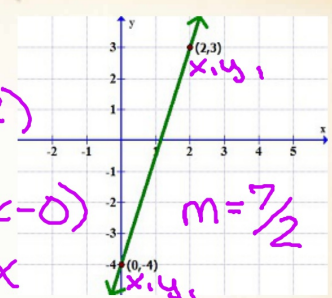
7. Write two possible equations for the given line in point-slope form.

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

$$\textcircled{1} y - 3 = \frac{7}{2}(x - 2)$$

$$\textcircled{2} y - 4 = \frac{7}{2}(x - 0)$$

$$y + 4 = \frac{7}{2}x$$

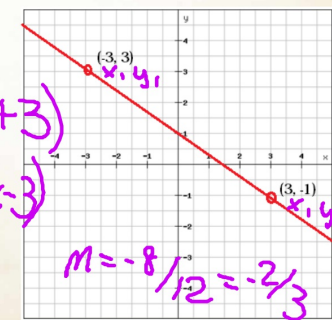


8. Write two possible equations for the given line in point-slope form.

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

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

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



$$m = -\frac{4}{6} = -\frac{2}{3}$$