

## 5.2. Point-Slope form

Nov. 29, 2006

Recall: - Standard form:  $Ax + By = C$

- Slope-Intercept:  $y = mx + b$

Where  $m = \text{slope}$ ;  $b = \text{y.int}$

- Point-Slope form:  $y - y_1 = m(x - x_1)$

Where  $m = \text{slope}$ ;  $(x_1, y_1)$  is any Point on the Line

Write in Point-Slope form the equation  
w/ Slope 3 & passing through (1, 5)

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

$$m = \text{slope} = \underline{3}$$

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

Any Pt. on the Line = (1, 5)  
(x<sub>1</sub>, y<sub>1</sub>)

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

$$m = \text{slope} = \frac{\frac{4}{3}}{\frac{4}{3}}$$

Pt on Line = (2, -4)  
(x<sub>1</sub>, y<sub>1</sub>)

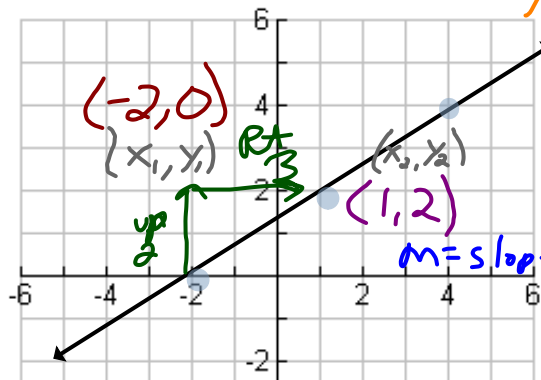
$$y - y_1 = m(x - x_1)$$

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

$$\underline{\underline{y + 4 = \frac{4}{3}(x - 2)}}$$

Write the Equation in Point-Slope form

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



$$m = \text{slope} = \frac{2}{3}$$

$$\text{Pt on the Line} = (1, 2)$$

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{\text{rise}}{\text{run}} = \frac{2}{3}$$

$$m = \frac{2 - 0}{1 - (-2)} = \frac{2}{3}$$

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

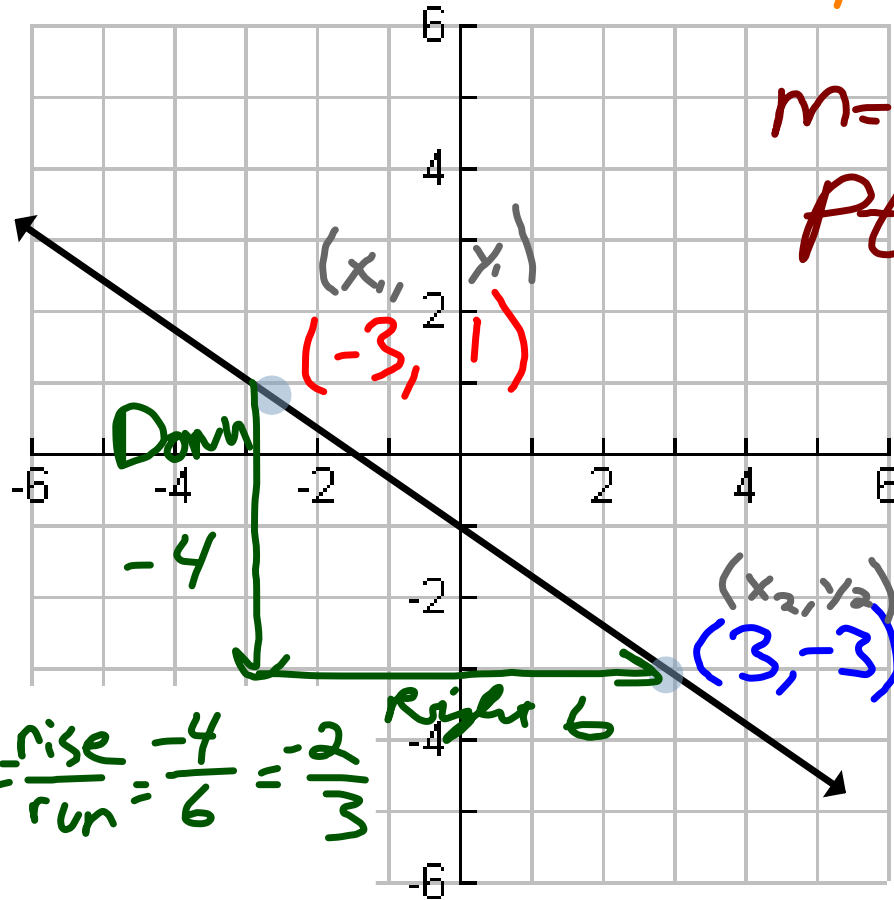
$$y - 2 = \frac{2}{3}(x - 1)$$

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

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

Write the Equation in Point-Slope form

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



$m = \text{slope} = \underline{\hspace{2cm}}$

$\text{Pt. on the Line} = \underline{(3, -3)}$

O.T.L.

① Write the Summary Box on  
Pg 280 at the Bottom

② Pg 281-282: 1-7(a), 14, 19, 24

