

5.2. Point-Slope form Mar. 02, 2007

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

$x, y \Rightarrow \text{Variables}$

A & B are Integer Coefficients

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

$$y - y_1 = m(x - x_1) \quad \underline{x_1, y_1}$$

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

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

Any Pt. on the Line = $(1, 5)$

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

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

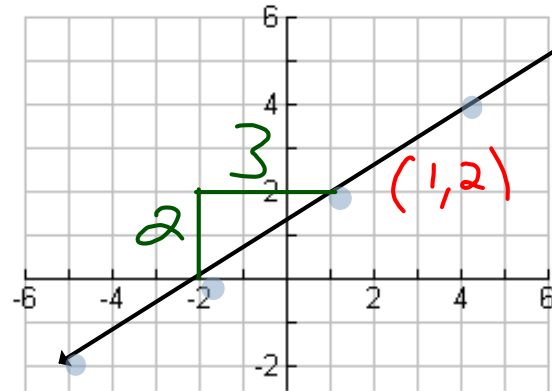
$$\text{Pt on Line} = \underline{(2, -4)} \quad \underline{x_1, y_1}$$

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

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

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

Write the Equation in Point-Slope form



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

$$P_{\text{on the line}} = (1, 2)$$

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

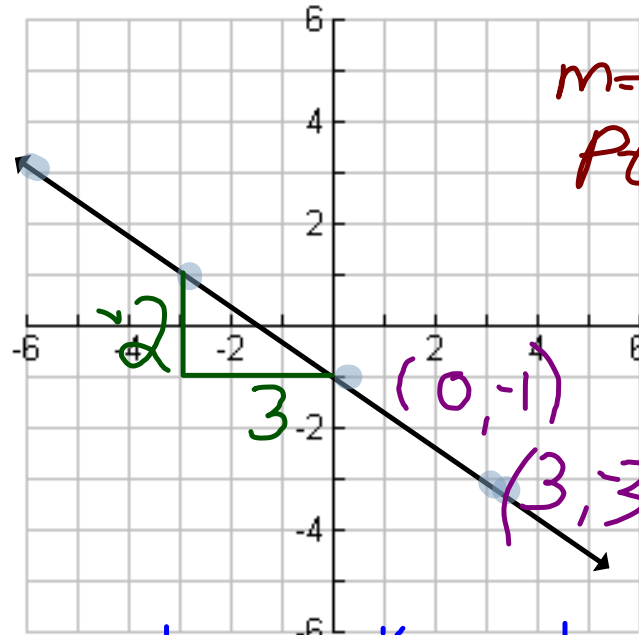
$$y - 2 = \frac{2}{3}(x - 1)$$

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

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

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Write the Equation in Point-Slope form



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

$$\text{Pt. on the line} = (0, -1)$$

$$(-3, 1) \quad y - y_1 = m(x - x_1)$$

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

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

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

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

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

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

O.T.L.

① Write the Summary Box on
Pg 280 at the Bottom

② Pg 281-282: 1-7(a), 14, 19, 24

