

5-10-17

Aim: SWBAT graph a line given its slope and a point on that line AND write an equation in slope-intercept form ($y = mx + b$).

Do Now: Check HW

HW: Finish Classwork (Standard to Slope Intercept Form)

Pg. 625 # 30 - 33 (Just graph the line)

Quiz Friday (Mon-Wed Concepts)

●

① rise

② run

③ slope

④ $(-3, -3)$ and $(1, 2)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

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

$$m = \frac{5}{4}$$

⑤ $(-2, 6)$ and $(1, 0)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{0 - 6}{1 - (-2)}$$

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

$$m = -2$$

⑥ $(3, 0)$ and $(3, 4)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{4 - 0}{3 - 3}$$

$$m = \frac{4}{0}$$

undefined
Not allowed to have a 0 in the denominator.

⑦ $(-4, 8)$ and $(6, 6)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{6 - 8}{6 - (-4)}$$

$$m = \frac{-2}{10}$$

$$m = -\frac{1}{5}$$

⑧ $(1, 4)$ and $(1, -7)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-7 - 4}{1 - 1}$$

$$m = \frac{-11}{0}$$

undefined

⑨ $(-5, 4)$ and $(3, 4)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{4 - 4}{3 - (-5)}$$

$$m = \frac{0}{8}$$

$$m = 0$$

⑩ $(-2, -4)$ and $(4, 2)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

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

$$m = \frac{6}{6}$$

$$m = 1$$

⑪ $(-3, 1)$ and $(-3, -2)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

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

$$m = \frac{-3}{0}$$

undefined

⑫ $(0, -3)$ and $(4, 0)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{0 - (-3)}{4 - 0}$$

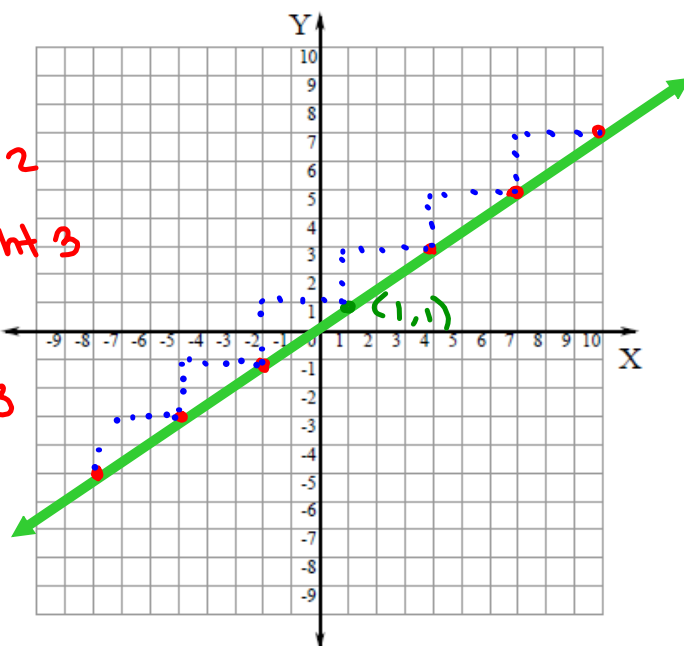
$$m = \frac{3}{4}$$

The error in the book shows the difference of x's over the difference of y's instead of the other way around.

Point - Slope

$$(1, 1); m = \frac{2}{3} \begin{array}{l} \text{up } 2 \\ \text{right } 3 \end{array}$$

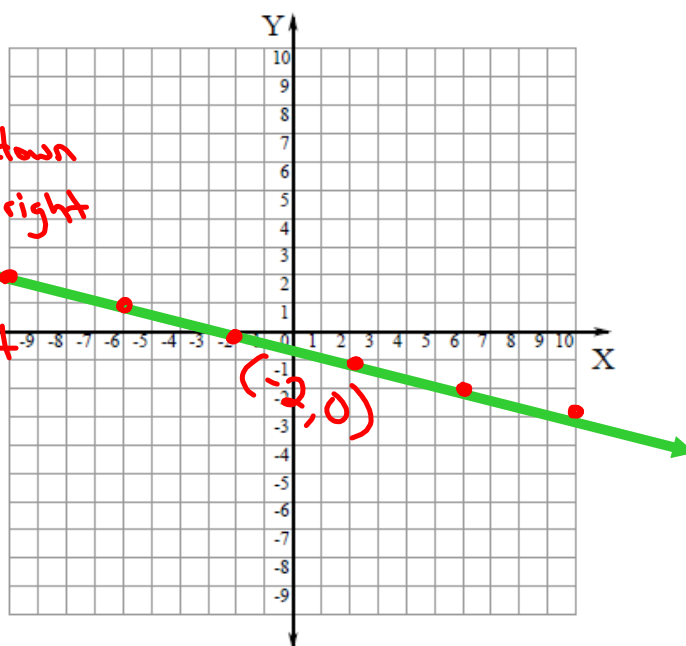
$$\frac{2}{3} = \frac{-2}{-3} \begin{array}{l} \text{down } 2 \\ \text{left } 3 \end{array}$$



Point - Slope

$$\begin{matrix} x & y \\ (-2, 0) \end{matrix}; m = \frac{-1}{4} \begin{matrix} \text{1 down} \\ \text{4 right} \end{matrix}$$

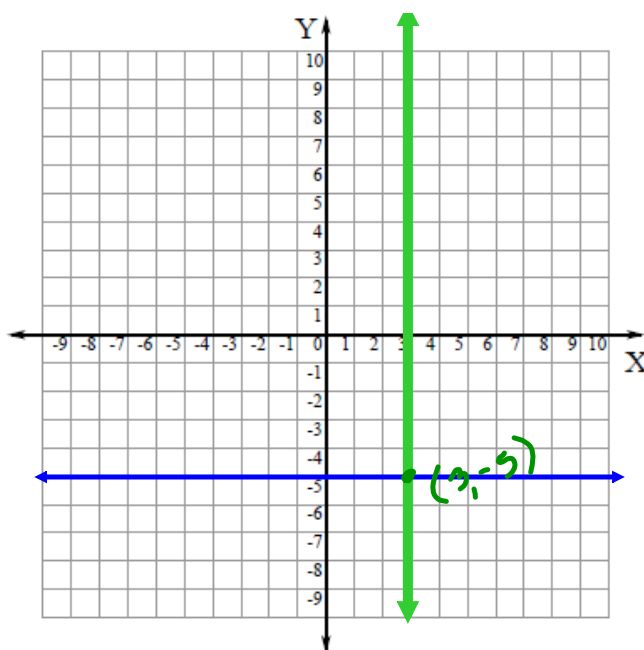
$$-\frac{1}{4} = \frac{1}{-4} \begin{matrix} \text{1 up} \\ \text{4 left} \end{matrix}$$



Point - Slope

$(3, -5) ; m = 0$

$(3, -5) ; m = \text{undefined}$



Rewrite the equation in slope-intercept form.

That means solve the equation for y . Put it into $y = mx + b$

1. $-2x + 3y = 6$

$$\begin{array}{r} +2x \qquad +2x \\ \hline 3y = 2x + 6 \end{array}$$

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

2. $-x + y = 6$

$$\begin{array}{r} +x \qquad +x \\ \hline y = x + 6 \end{array}$$

3. $2x = y + 5$

$$\begin{array}{r} -5 \qquad -5 \\ \hline 2x - 5 = y \end{array}$$

$$2x - 5 = y$$

$$y = 2x - 5$$

4. $8x - 4y = 32$

5. $x - y = -2$

6. $y = 6 - x$

7. $1 = 2x - y$

8. $6x = 10 - y$