

Day 10 – Writing Equations Given Two Points - Practice

Directions: Write the equation of the line using the given information. You must do it algebraically and graphically to ensure your equations are correct.

1. (4, 5) and (8, 3)

$$m = \frac{3 - 5}{8 - 4} = \frac{-2}{4} = -\frac{1}{2}$$

$$y = mx + b$$

$$5 = -\frac{1}{2}(4) + b$$

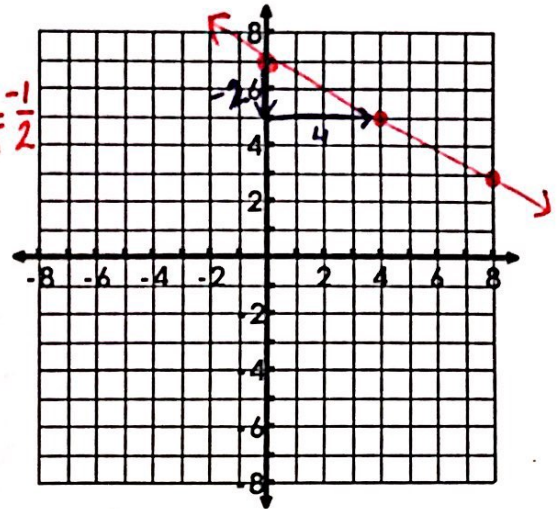
$$5 = -2 + b$$

$$7 = b$$

$$m = -\frac{1}{2} \quad b = (0, 7)$$

Slope Intercept Equation: $y = -\frac{1}{2}x + 7$

$$\frac{\Delta y}{\Delta x} = \frac{-2}{4} = -\frac{1}{2}$$



2. (0, -3) and (1, -4)

$$m = \frac{-4 - (-3)}{1 - 0} = \frac{-1}{1} = -1$$

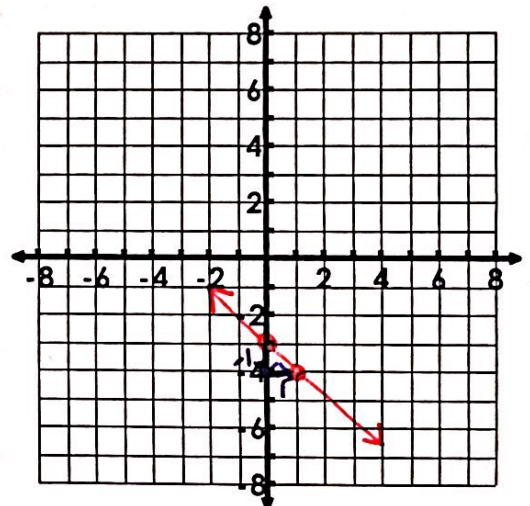
$$y = mx + b$$

$$-3 = -1(0) + b$$

$$-3 = b$$

$$m = -1 \quad b = (0, -3)$$

Slope Intercept Equation: $y = -x - 3$



3. (0, -5) and (2, -2)

$$m = \frac{-2 - (-5)}{2 - 0} = \frac{3}{2}$$

$$y = mx + b$$

$$-5 = \frac{3}{2}(0) + b$$

$$-5 = b$$

$$m = \frac{3}{2} \quad b = (0, -5)$$

Slope Intercept Equation: $y = \frac{3}{2}x - 5$

