

Warm Up Questions



1. Find the slope of a line passing through an x-intercept of 5 and a y-intercept of -3.
2. Determine the slope that is perpendicular to $(5, 3)$ and $(7, 0)$.

1. Find the slope of a line passing through an x-intercept of 5 and a y-intercept of -3

(x, y)

x-int = 5 y-int = -3
 $(x_1, y_1) = (5, 0)$ $(x_2, y_2) = (0, -3)$

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

$$m = \frac{-3 - 0}{0 - 5}$$

$$m = \frac{-3}{-5}$$

$$m = +\frac{3}{5}$$

2. Determine the slope that is perpendicular to (x_1, y_1) and (x_2, y_2) .

opp rec

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

$$m = \frac{0 - 3}{7 - 5}$$

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

$$\text{Ans} = +\frac{2}{3}$$

"Finding K"



Day #2





A line passes through the points $(k+4, 0)$ and $(-3, 4)$.
 If the slope is parallel $\underline{-2}$, what is the value of k ?

(same)

1st (x_1, y_1) and (x_2, y_2) $m = -\frac{2}{5}$

$(k+4, 0)$ $(-3, 4)$

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

$$-\frac{2}{5} = \frac{4 - 0}{-3 - (k+4)}$$

$$-\frac{2}{5} = \frac{4}{-3 - k - 4}$$

$$-\frac{2}{5} = \frac{4}{-7 - k}$$

$$-2(-7 - k) = 20$$

$$+14 + 2k = 20 - 14$$

$$2k = 6$$

$$k = 3$$

A line passes through the points $(k, 3)$ and $(4, 2)$.
 If the slope is parallel to the y-axis, what is the value of k ?



1st $(k, 3)$ and $(4, 2)$ $m = \frac{1}{0}$

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

$$\frac{1}{0} = \frac{2 - 3}{4 - k}$$

$$\frac{1}{0} = \frac{-1}{4 - k}$$

$$1(4 - k) = 0$$

$$4 - k = 0 - 4$$

$$-k = -4$$

$$\underline{\quad} \quad \underline{\quad}$$

$$k = 4$$

A line passes through the point $(k, 5)$ and has an x-intercept of 3. If the slope is perpendicular to $-1/5$, what is the value of k ?



opp rec.
 $x\text{-int} = 3 (y=0)$
 1st $(x_1, y_1) = (k, 5)$ and $(x_2, y_2) = (3, 0)$ $m = +\frac{5}{1} (x, y)$

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

$$\frac{5}{1} = \frac{0 - 5}{3 - k}$$

$$\frac{5}{1} = \frac{-5}{-3 - k}$$

$$5(-3 - k) = -5$$

$$-15 - 5k = -5 + 15$$

$$-5k = 10$$

$$k = -2$$

A line passes through the points (4,5) and (3, k). If the slope is parallel to the x-axis, what is the value of k?



1st $(4, 5)$ ^{x_1, y_1} ^{same} 2nd $(3, k)$ ^{x_2, y_2} $m = \frac{0}{1}$

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

$$\frac{0}{1} = \frac{k - 5}{3 - 4}$$

$$\frac{0}{1} = \frac{k - 5}{-1}$$

$$1(k - 5) = 0$$

$$k - 5 = 0$$

$$k = 5$$



