

Lines: Lesson 3

Advanced Slope: Notes

Answer Key!

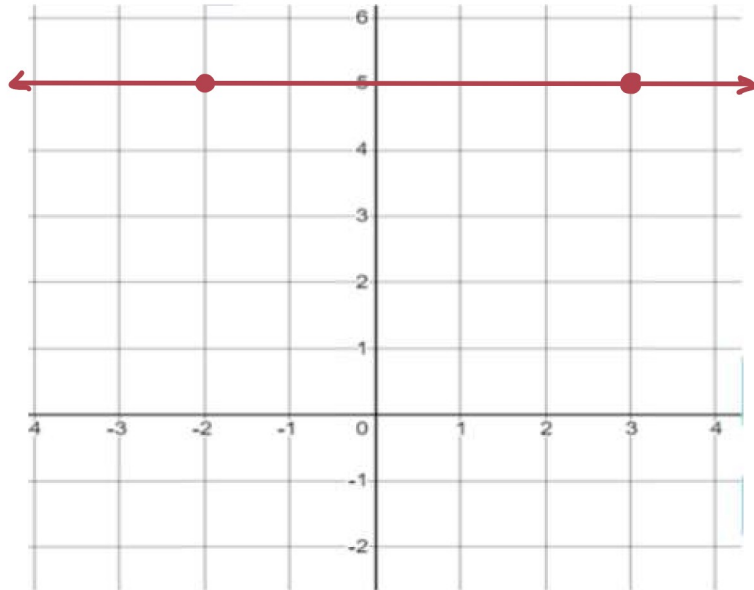
Name: _____

MATH 4 ALL

Horizontal Lines: (3, 5) (-2, 5)

$$\text{Slope: } \frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - 5}{-2 - 3} =$$
$$= \frac{0}{-5} = 0$$

Equation: $y = 5$

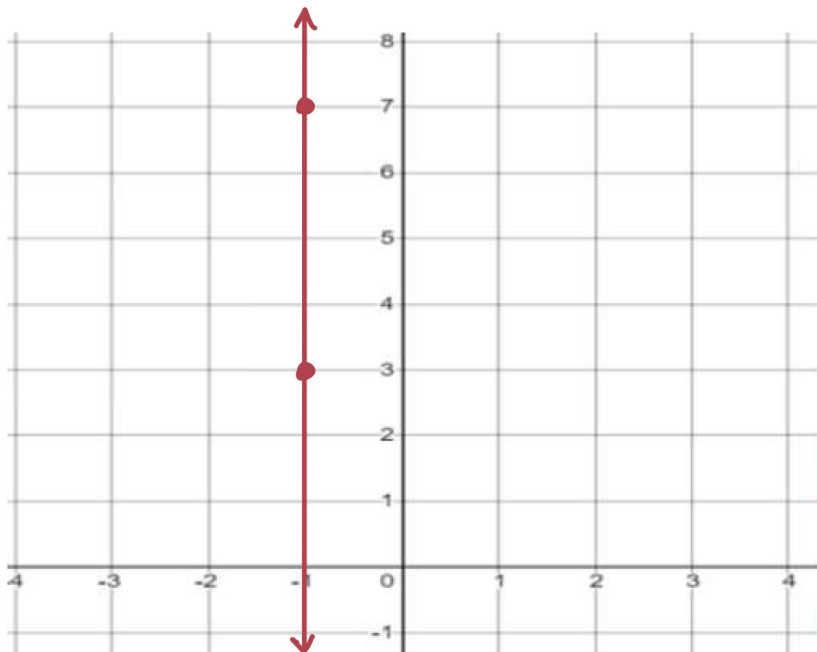


Vertical Lines: (-1, 7) and (-1, 3)

$$\text{Slope: } \frac{3 - 7}{-1 - (-1)} = \frac{-4}{0}$$

undefined!

Equation: $x = -1$



Are these 3 points on the same line?

$(-4, 5)$ $(-7, 3)$ $(2, 9)$

Slope between the first two points:

$$\frac{3-5}{-7-(-4)} = \frac{-2}{-3} = \frac{2}{3}$$

Slope between the second two points:

$$\frac{9-3}{2-(-7)} = \frac{6}{9} = \frac{2}{3}$$

yes!

Find a.

$(8, -3)$ $(5, a)$

Slope: $\frac{3}{5}$

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

$$\frac{3}{5} = \frac{a - (-3)}{5 - 8}$$

$$\frac{3}{5} \times \frac{(a+3)}{-3}$$

$$a = \frac{-24}{5}$$

$$\begin{array}{r} 5(a+3) \\ 5a + 15 = -9 \\ \hline \frac{5a}{5} = \frac{-24}{5} \end{array}$$