Name _____ Date Answer Key

Finding Slope From Two Points

The slope of a line is a number that helps you understand how steep the line is.

To find the slope between two points (x_1, y_1) and (x_2, y_2), use the formula below:

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

Make sure that the values you substitute for x_1 and y_1 come from the same point! The values you substitute for x_2 and y_2 will come from the other point.

Let's try an example!

Find the slope of the line that goes through the points (−2, −1) and (4, 3). To start, choose one point to be your first point (x_1, y_1) and use the other as the second point (x_2, y_2). Then use the slope formula and write the answer as a simplified fraction or integer.

$(x_1, y_1) = (-2, -1)$

$(x_2, y_2) = (4, 3)$

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - (-1)}{4 - (-2)} = \frac{4}{6} = \frac{2}{3}$$

The slope of the line is $\frac{2}{3}$.

Find the slope of the line that goes through the two given points for each problem. Make sure to write each slope as a simplified fraction or integer.

(1, 3) and (2, 5) slope = 2	(3, 4) and (5, 2) slope = −1	(2, 10) and (6, 12) slope = $\frac{1}{2}$
(8, 20) and (17, 15) slope = $-\frac{5}{9}$	(9, 2) and (−1, 4) slope = $-\frac{1}{5}$	(0, 7) and (1, −3) slope = −10
(−9, 11) and (6, 6) slope = $-\frac{1}{3}$	(5, −3) and (13, −5) slope = $-\frac{1}{4}$	(23, 4) and (−7, −11) slope = $\frac{1}{2}$
(−4, −6) and (8, 2) slope = $\frac{2}{3}$	(−12, −1) and (−8, −5) slope = −1	(−21, −18) and (−16, −3) slope = 3