

$$\frac{y}{x}$$

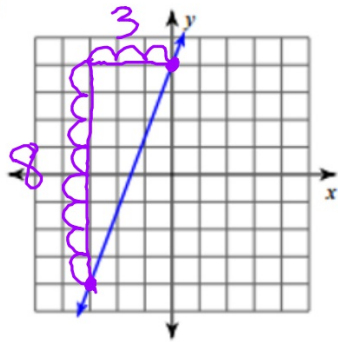
Rise
Run

SLOPE

$$\frac{\Delta y}{\Delta x}$$



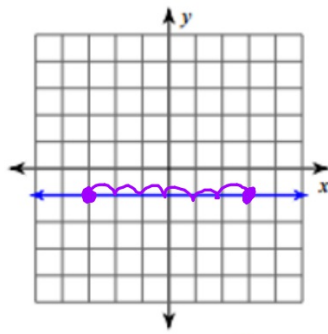
1.



$$\frac{\Delta y}{\Delta x} = \frac{8}{3}$$

$$m = \frac{8}{3}$$

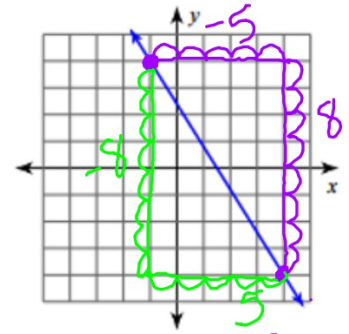
2.



$$\frac{\Delta y}{\Delta x} = \frac{0}{6} = 0$$

$$m = 0$$

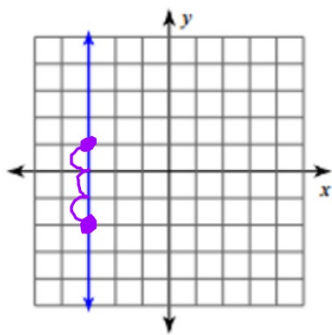
3.



$$\frac{\Delta y}{\Delta x} = \frac{8}{-5}$$

$$m = -\frac{8}{5}$$

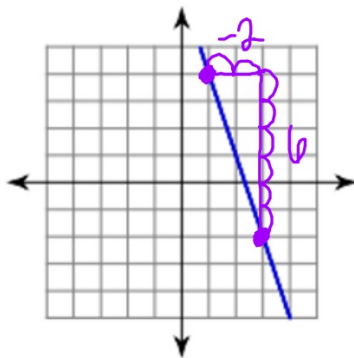
4.



$$\frac{\Delta y}{\Delta x} = \frac{3}{0}$$

$$m = \text{undefined}$$

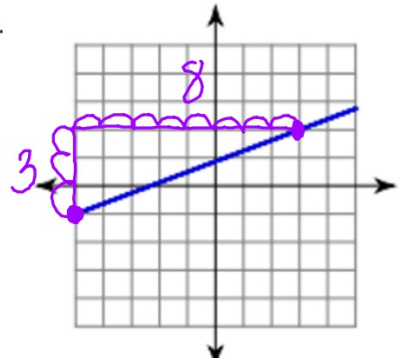
5.



$$\frac{\Delta y}{\Delta x} = \frac{6}{-2} = -3$$

$$m = -3$$

6.



$$\frac{\Delta y}{\Delta x} = \frac{3}{8} =$$

$$m = \frac{3}{8}$$

Given a table find the slope.

1.	x	y
	-2	3
+1 <	-1	5 > +2
+1 <	0	7 > +2
+1 <	1	9 > +2
+1 <	2	11 > +2

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

$$m = 2$$

Given a table find the slope.

2.

x	y
-4	6
-2	6
0	6
2	6
4	6

Handwritten annotations in purple: $+2 <$ between x-values, > 0 between y-values.

$$\frac{\Delta y}{\Delta x} = \frac{0}{2} = 0$$

$$m = 0$$

horizontal
Line

Given a table find the slope.

3.

x	y
-5	10
-2	5
1	0
4	-5
7	-10

Handwritten annotations:
-3 arrows on the left of the x column pointing to the differences between rows: +3, +3, +3, +3.
-3 arrows on the right of the y column pointing to the differences between rows: -5, -5, -5, -5.

$$\frac{\Delta y}{\Delta x} = \frac{-5}{3}$$

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

Given a table find the slope.

4.

x	y
5	2
5	4
5	6
5	8
5	10

$$\frac{\Delta y}{\Delta x} = \frac{2}{0}$$

$$m = \text{undefined}$$

Vertical
Line

Given a table find the slope.

$$m = -5$$

5.	x	y
+8	-10	50
+6	-2	10
+10	4	-20
	14	-70

$$\frac{\Delta y}{\Delta x} = \frac{-40}{8} = -5$$

$$\frac{\Delta y}{\Delta x} = \frac{-30}{6} = -5$$

$$\frac{\Delta y}{\Delta x} = \frac{-50}{10} = -5$$

Find the slope that passes through the two points.

$$1. \quad \begin{array}{cc|cc} x_1 & y_1 & x_2 & y_2 \\ \hline (-8, & -8) & (8, & 4) \end{array}$$

$$+16 \left\langle \begin{array}{c|c} x & y \\ \hline -8 & -8 \\ 8 & 4 \end{array} \right\rangle +12$$

$$\frac{\Delta y}{\Delta x} = \frac{12}{16} = \frac{3}{4}$$

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

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

$$m = \frac{12}{16} = \frac{3}{4}$$

Find the slope that passes through the two points.

$$2. \quad \begin{array}{cc} x_1 & y_1 \\ (-13, & 5) \end{array}, \begin{array}{cc} x_2 & y_2 \\ (10, & 8) \end{array} \quad m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{8 - 5}{10 - (-13)} = \frac{3}{23}$$

$$m = \frac{3}{23}$$

Find the slope that passes through the two points.

$$3. \quad \begin{array}{cc} x_1 & y_1 \\ (-5, & 11) \end{array}, \begin{array}{cc} x_2 & y_2 \\ (0, & -3) \end{array} \quad m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-3 - 11}{0 - (-5)} = \frac{-14}{5}$$

$$m = \frac{-14}{5}$$