

Warm Up

Find the slope.

$$1. (1, 5), (5, 2)$$

(1, 5)

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

negative

$$2. (0, -6), (8, 0)$$

(0, -6)

$$m = \frac{0 - (-6)}{8 - 0} = \frac{6}{8} = \frac{3}{4}$$

$$3) (-7, 0), (-7, 8)$$

(-7, 0)

$$m = \frac{8-0}{-7-(-7)} = \frac{8}{0}$$

undefined

$$4) (2, -4), (8, 6)$$

(2, -4)

$$m = \frac{6 - (-4)}{8 - 2} = \frac{10}{6} = \frac{5}{3}$$

pos.

Homework Questions?

On the top of your paper (by your name) rate yourself for this section:

4 - I can summarize the concepts and explain it to others

3 - I can apply the concept to answer questions correctly

2 - I can apply the concepts but with some mistakes

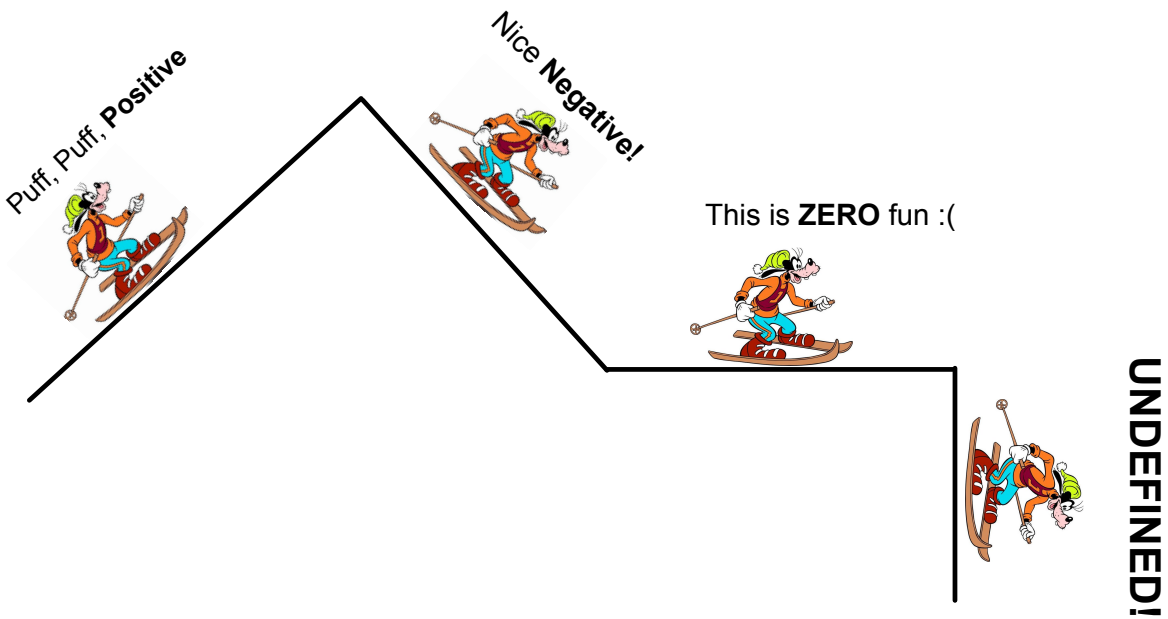
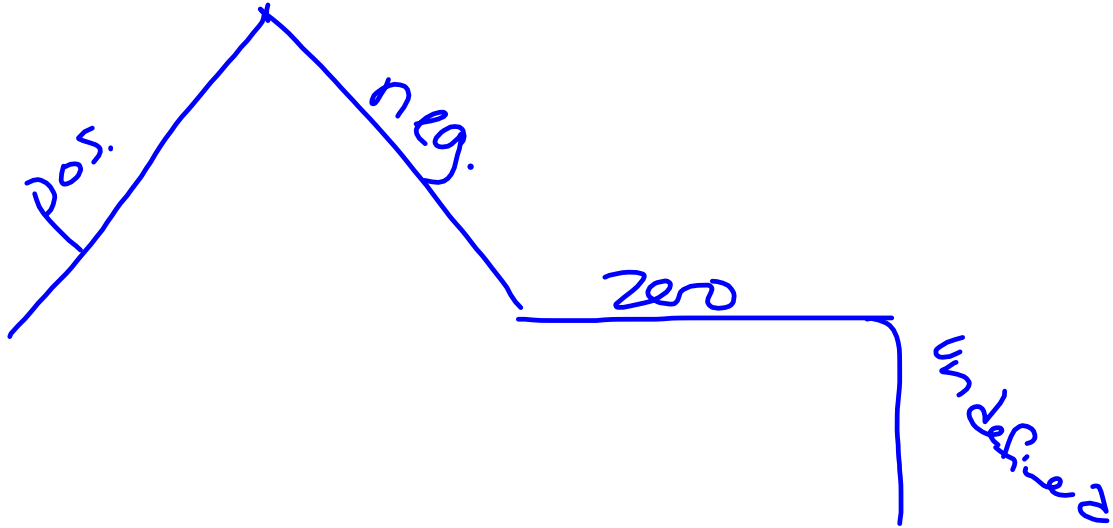
1 - I need help and know how to apply the concept

0 - I can't apply the concept, even with help

Rating of 0-2 is a warning signal to me that you need help



What are the 4 Types of Slope?



4.4 The Slope of a Line Continued

Goals:

- Find the slope of a line using two of its points.
- Interpret slope as a rate of change in real-life situations.

EQ: Given: $(-1, 3), (5, y), m = -1$

Find the value of y .

Formula for slope?

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

rise
run

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

$(2, 1), (-3, 5)$
 $(2, 1)$

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

$(3, -6), (7, -6)$
 $(3, -6)$

$$m = \frac{-6 - (-6)}{7-3} = \frac{0}{4} = 0$$

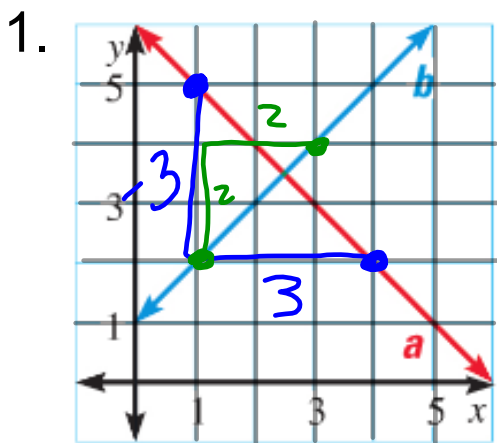
$m = 0$
 zero slope

$(2, 5), (2, -3)$
 $(2, 5)$

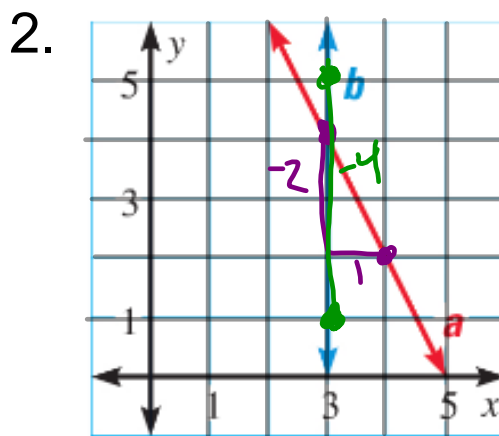
$$m = \frac{-3-5}{2-2} = \frac{-8}{0}$$

undefined

Find the slope of the lines.



Slope of a: $-\frac{3}{3} = -1$
 Slope of b: $\frac{3}{2} = 1.5$



Slope of a: $-\frac{3}{1} = -3$
 Slope of b: $\frac{0}{4}$ Undefined

Find the value of y so that the line passing through the two points has the given slope.

a. $(0, -2), (2, y), m = 3$

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

$3 = \frac{y + 2}{2} \quad \frac{1y}{2} + \frac{2}{2}$

$3 = \frac{1}{2}y + 1$

$2 \cdot 2 = \frac{1}{2}y \cdot 2$

$4 = y$

b. $(3, y), (1, 4), m = -\frac{1}{2}$

$m = \frac{y - 4}{3 - 1}$

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

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

$\frac{-1}{2} = \frac{1}{2}y - 2$

c. $(-2, 1), (4, y), m = \frac{2}{3}$

$m = \frac{y - 1}{4 - (-2)}$

$\frac{2}{3} = \frac{y - 1}{6}$

$\frac{2}{3} = \frac{1}{6}y - \frac{1}{6}$

$\frac{4}{6} + \frac{1}{6}$

$y = 5$

$\frac{5}{6} = \frac{1}{6}y$

Summary

EQ: Given: $(-1, 3)$, $(5, y)$, $m = -1$

Find the value of y .

$$-1 = \frac{y - 3}{6}$$

$$m = \frac{y - 3}{5 - (-1)}$$

$$-1 = \frac{1}{6}y - \frac{1}{2}$$

$$\frac{6}{1} - \frac{1}{2} = \frac{1}{6}y - \frac{6}{2}$$

$$-6 = x - 3$$

4.4 Day 2 Homework

Slope wksts (3 total)

*You can skip the side that says p.99 on the bottom