Math 60: Introductory Algebra – First Term

Name:

Topic: Slope

Learning Objectives:

* ❖ *Given two non-vertical lines, identify the line with greater slope.*
* ❖ *Given the graph of a non-vertical line, identify the slope as positive, negative, or zero*
* ❖ *Find the slope of a line from a graph*

Warm Up

#1) Which road is more slanted?

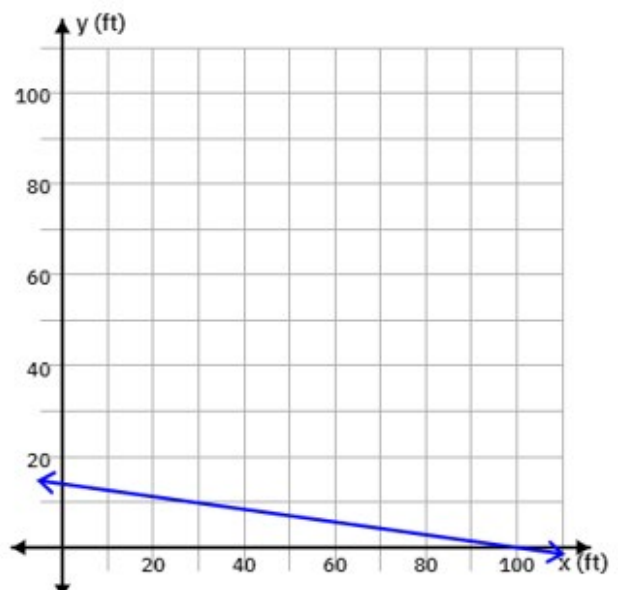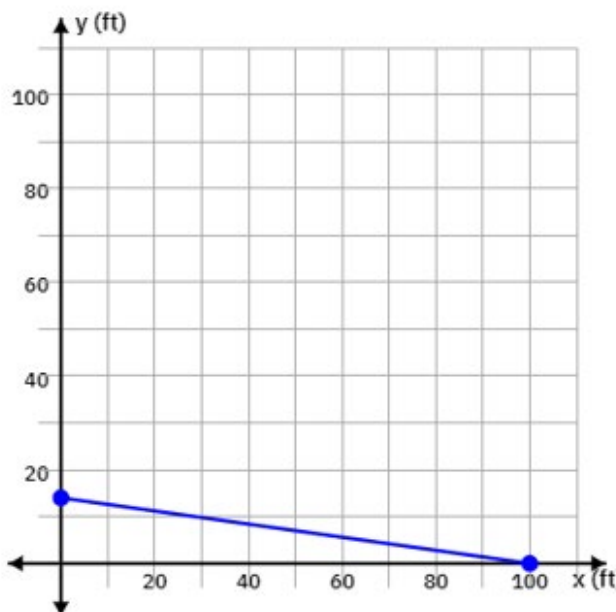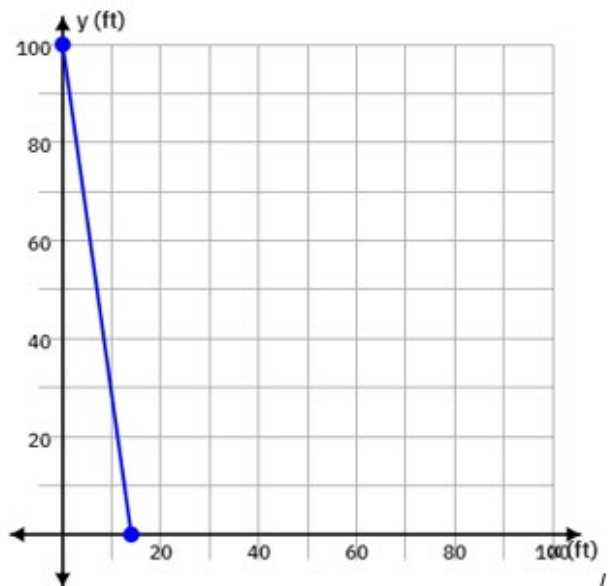
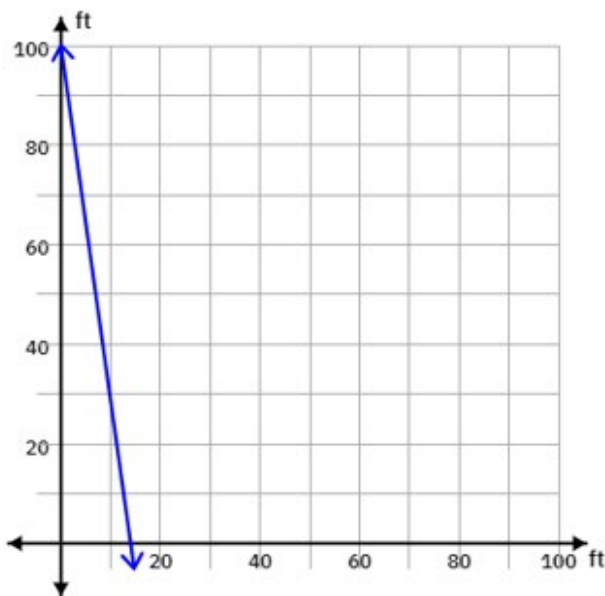Figure 1: Road sign – 14% downgrade

Figure 2: Road sign – 8% downgrade

#2)Which graph correctly represents the road shown in Figure 1?

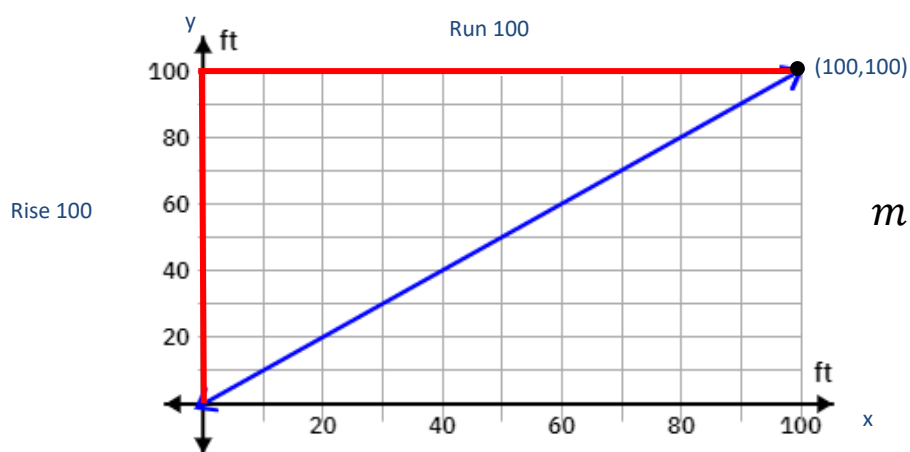Figure 2: Road sign – 14% downgrade

x

What is Slope?

The slope of a line is a number which measures the slant and the direction of the line

   ❖ *Slope is a rate of change!*

$$m = \frac{vertical\ change}{horizontal\ change} = \frac{change\ in\ y}{change\ in\ x} = \frac{Rise}{Run}$$
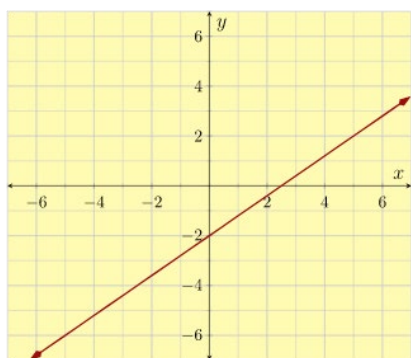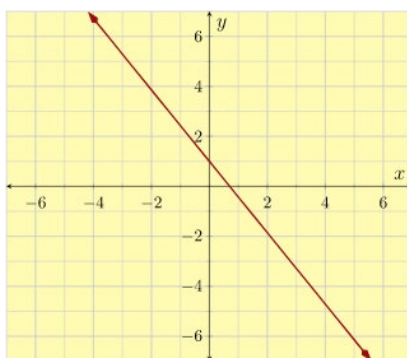

$$m = \frac{100}{100} = 1$$

Slope Gives Direction:

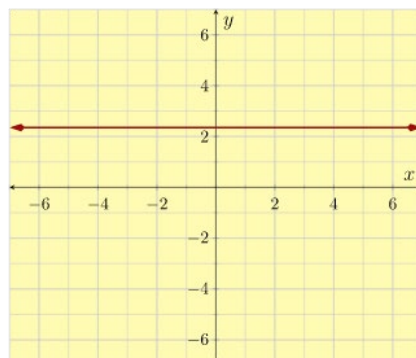*We read a graph from left to right (like we read a sentence).*

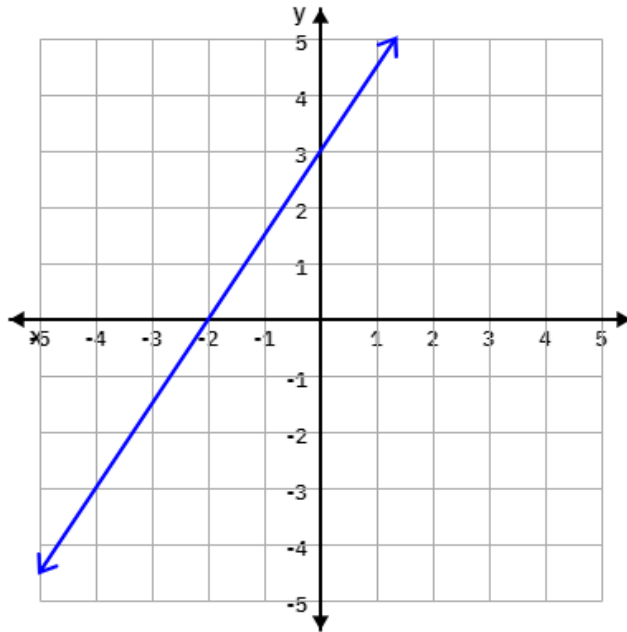| Increasing Line (Positive Slope)	Decreasing Line (Negative Slope)	Constant Line (Zero Slope)

Example

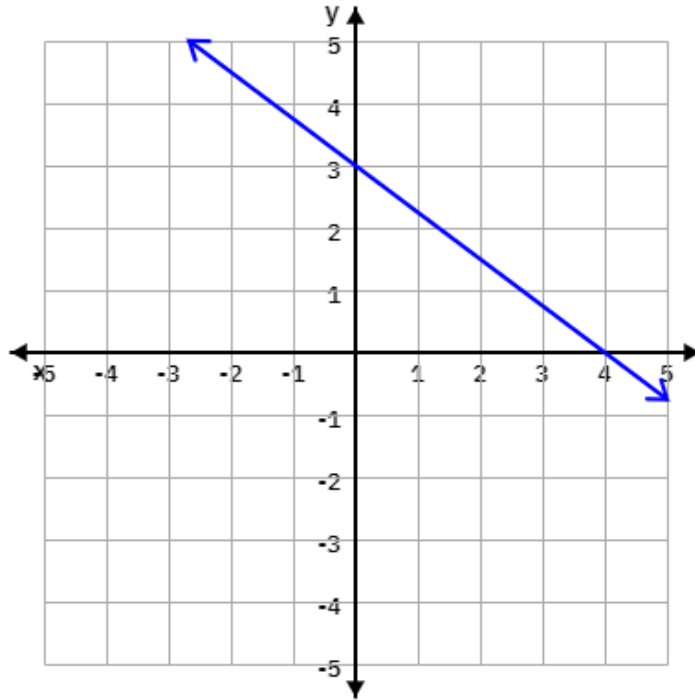Use the following graph to answer the questions below.

(A) Is the slope of the line positive, zero, or negative? _____

(B) What is the slope of the line? _____

Practice

#1) Use the following graph to answer the questions below.

(A)Is the slope of the line positive, zero, or negative? _____

(B)What is the slope of the line? _____

*When you have the answer ready, write your favorite breakfast food in the chat.

#2) Use the following graph to answer the questions below.

(A) Is the slope of the line positive, zero, or negative? _____

(B) What is the slope of the line? _____

*When you have the answer ready, write your favorite dessert in the chat.

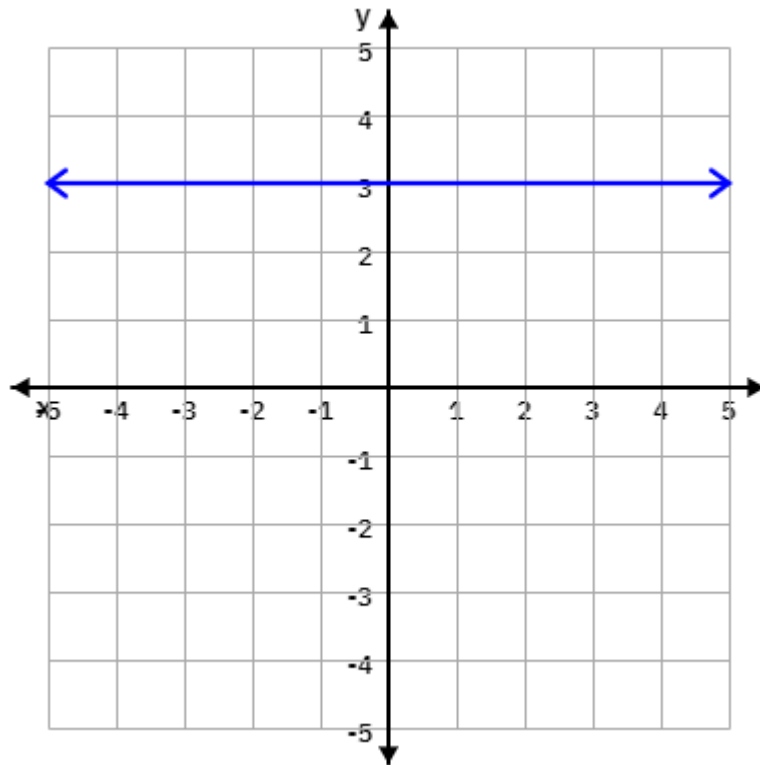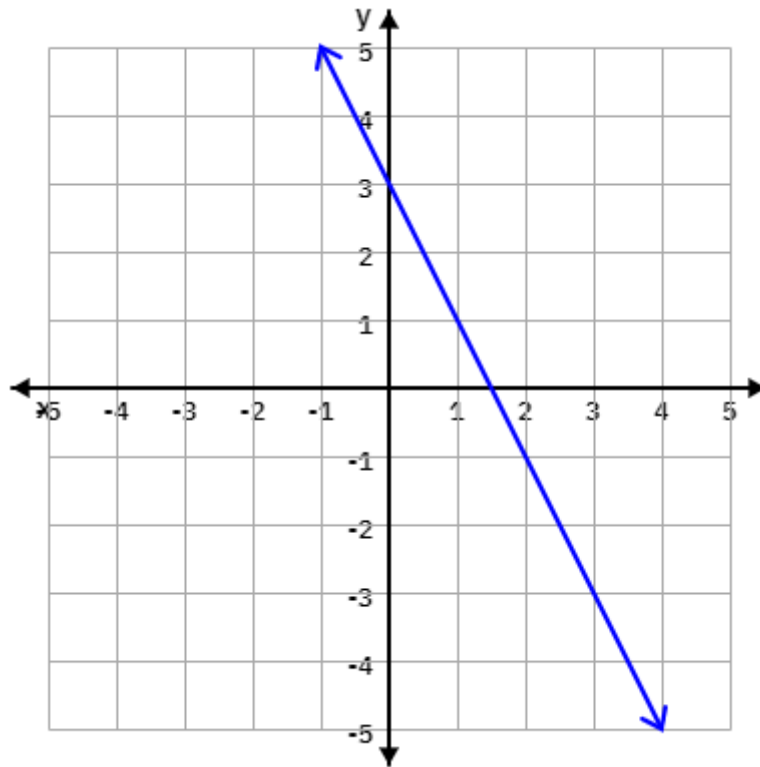#3) Use the following graph to answer the questions below.

(A)Is the slope of the line positive, zero, or negative? _____

(B)What is the slope of the line? _____

**When you have the answer ready, write your favorite animal in the chat.*

Muddiest Points

Q&A. What topic(s) is/are still muddy? Write your questions here and we'll discuss them as a class.

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Lets End it on a Positive Slope

Below is an increasing line with the units for the y-axis left blank. Read the graph and then complete the following sentence with one word.

It would be positively great if the y-axis was _____.