

Activity 1.7**Chapter 1: Function Sense****Learning Objective**

1. Interpret slope as an average rate of change.
2. Use the formula to determine slope.
3. Discover the practical meaning of vertical and horizontal intercepts.
4. Develop the slope-intercept form of an equation of a line.
5. Use the slope-intercept formula to determine vertical and horizontal intercepts.
6. Determine the zeros of a function.

Practice Exercises

1. For a - b , use the function $\{(-3, 5), (4, 2), (11, -1)\}$:
 - a. Is the function linear.
 - b. What is the average rate of change?

2. Determine whether the following function is linear. State why or why not:

X	3	-5	7
Y	2	4	-6

3. For a - d , consider the equation: $y = -4x + 1$.
 - a. Construct a table of three ordered pairs that satisfy the equation
 - b. What is the slope of the line represented by the equation?
 - c. What is the vertical (y) intercept?
 - d. What is the horizontal (x) intercept?
4. For a - e , consider the points $(5, -6)$ and $(0, 4)$.
 - a. Determine the vertical intercept of the line.
 - b. Determine the slope of the line.
 - c. What is the equation of the line through these points? Use function notation.
 - d. What is the horizontal intercept?
 - e. Determine the zeros of the function.

5. For a-d, consider the equation $y = 3x - 3$.

a. Identify the slope.

c. What is the horizontal intercept?

b. What is the vertical intercept?

d. Determine the zeros of the function.

6. For a-c, consider the points $(0, -2)$ and the slope $m = '2'$

a. What is the equation of the line?

c. Determine the zeros of the function.

b. What is the horizontal intercept?

7. For a-d, consider the points $(-3, 4)$ and $(0, 1)$.

a. Determine the slope of the line.

c. What is the equation of the line that goes through the points? Use function notation.

b. Find the vertical intercept.

d. What is the horizontal intercept?

8. For #26-28, use your graphing calculator to graph the linear functions defined by the following equations. Discuss the similarities and differences of the graphs.

a. - - -

b.

c. –

Concept Connections

1. What are the vertical intercept and the horizontal intercept?

2. Describe the graph of a linear function that has a positive slope. Describe the graph of a linear function that has a negative slope.