

Activity 1.9**Learning Objective**

1. Write an equation of a line in standard form, $Ax + By = C$
2. Write the slope-intercept form of a linear equation given the standard form.
3. Determine the equation of a horizontal line.
4. Determine the equation of a vertical line.

Practice Exercises

1. Consider the linear equation: $4x - 5y = 20$
 - a. Write the linear equation in slope-intercept form
 - b. Determine the slope.
 - c. Determine the vertical intercept.
 - d. Find the horizontal intercept.

2. Consider the linear equation: $-2x + 3y = 6$
 - a. Write the linear equation in slope intercept-form
 - b. Determine the slope.
 - c. Determine the vertical intercept.
 - d. Find the horizontal intercept.

3. Consider the linear equation: $0x - 5y = 25$
 - a. Write the linear equation in slope intercept-form
 - b. Determine the slope.
 - c. Determine the vertical intercept.
 - d. Find the horizontal intercept.

4. Consider the horizontal line through the point $(4, -6)$
- a. Write the equation of the horizontal line.
 - b. What is the slope?
 - c. What is the vertical intercept?
 - d. What is the horizontal intercept?
 - e. Does graph of this horizontal line represent a function?
 - f. Explain why or why not.
5. Consider the vertical line through the point $(8, -1)$
- a. Write the equation of the vertical line.
 - b. What is the slope?
 - c. What is the vertical intercept?
 - d. What is the horizontal intercept?
 - e. Does graph of this horizontal line represent a function?
 - f. Explain why or why not.
6. Determine three ordered pairs that satisfy each of the following equation:
- a. $g(x) = 4$
 - b. $3x + 6 = 0$.

Concept Connections

1. Explain standard form of a linear equation.
2. What is the general form of every horizontal line? What is the general form of every vertical line?