Activity 1

Each of the functions is written in $y = mx + b$ form. Tell the slope and the y-intercept in each function.

1. $y = 2x + 3$
   - **(a)** What is the slope?
   - **(b)** What is the y-intercept?

2. $y = \frac{1}{2}x + 4$
   - **(a)** What is the slope?
   - **(b)** What is the y-intercept?

3. $y = 3x$
   - **(a)** What is the slope?
   - **(b)** What is the y-intercept?

4. $y = 4$
   - **(a)** What is the slope?
   - **(b)** What is the y-intercept?

Activity 2

Write the equation for each of the functions using $y = mx + b$ form.

1. Write the function whose slope is −1 and y-intercept is 5.

2. Write the function whose slope is 0 and y-intercept is 2.

3. Write the function whose slope is 1 and y-intercept is 0.

Activity 3

Create an x/y table and a graph for each of the functions you wrote in Activity 2.

Activity 4 • Distributed Practice

Write the general pattern for each of the properties. You are given examples to help you.

1. Additive Identity Property

   $3 + 0 = 3$

   $-\frac{1}{2} + 0 = -\frac{1}{2}$

   $2.3 + 0 = 2.3$

   Write the general pattern using the variable m.

2. Multiplicative Inverse (reciprocal) Property

   $\frac{2}{3} \cdot \frac{3}{2} = 1$

   $\frac{4}{3} \cdot \frac{3}{4} = 1$

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

   Write the general pattern using the variables a and b.

3. Distributive Property

   $2(x + 5) = 2x + 10$

   $3(x + 7) = 3x + 21$

   $4(x + 9) = 4x + 36$

   Write the general pattern using the variables x, y, and z.