

**Learning Goal:** I can write an equation in the form  $y = mx + b$  to represent a linear relationship.

**Meta de Aprendizaje:** Puedo escribir una ecuación in la forma  $y = mx + b$  para representar una relacion lineal.

**Language Goal:** I can read a word problem and write an equation in the form of  $y = mx + b$  to represent a linear relationship.

**Lenguaje Objetivo:** Puedo leer un problema de aplicación y escribir una ecuación in la forma  $y = mx + b$  para representar una relacion lineal.

**WORD PROBLEMS**

**PROBLEM 1**

Carolyn collects stamps. Carolyn was given 200 stamps when she turned 16 and she buys 15 stamps every month. What equation represents the relationship between  $x$ , the number of months and  $y$ , the total number of stamps Carolyn has collected?

**SLOPE:**  $m =$  \_\_\_\_\_ **Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$

**PROBLEM 2**

The value of a brand new Toyota Tacoma was \$20,000. The value of the car decreases by \$500 per year. What equation represents the relationship of the value of the car,  $y$ , after  $x$  months?

**SLOPE:**  $m =$  \_\_\_\_\_ **Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$

**PROBLEM 3**

John is building a new deck. He paid \$500 for the materials and is paying his brother \$25 an hour to help him build the deck. What equation represents the total amount cost of the deck,  $y$ , that John will pay after  $x$  hours?

**SLOPE:**  $m =$  \_\_\_\_\_ **Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$

**PROBLEM 4**

What equation represents the relationship when the  $y$ -value is **3 more than the quotient** of  $x$  and 2?

**SLOPE:**  $m =$  \_\_\_\_\_ **Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$

**PROBLEM 5**

A 10-inch candle burns at a rate of 0.5 inches per hour. What equation represents the height of the remaining candle,  $y$ , after  $x$  hours?

**SLOPE:**  $m =$  \_\_\_\_\_ **Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$

**PROBLEM 6**

Jack has \$500 in a savings account for college. Jack **deposits** \$100 monthly into his savings account. What equation represents the total amount of money,  $y$ , Jack will have in his savings account after  $x$  months.

**SLOPE:**  $m =$  \_\_\_\_\_ **Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$

## GRAPHS

### PROBLEM 1

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

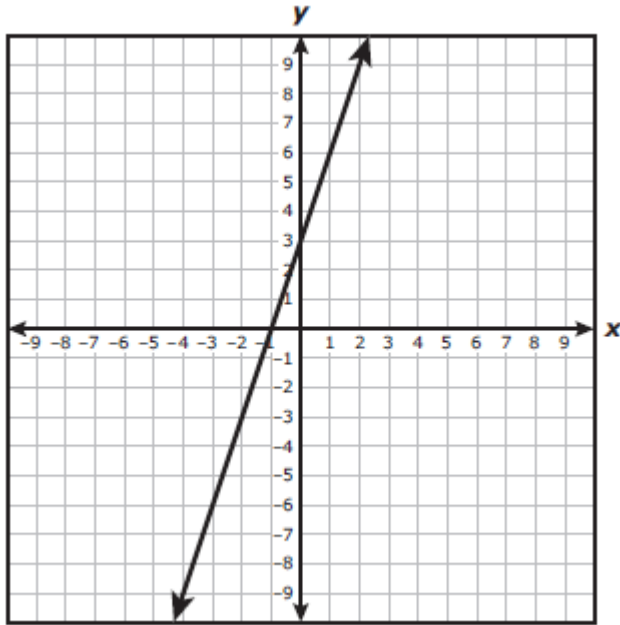
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$



### PROBLEM 2

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

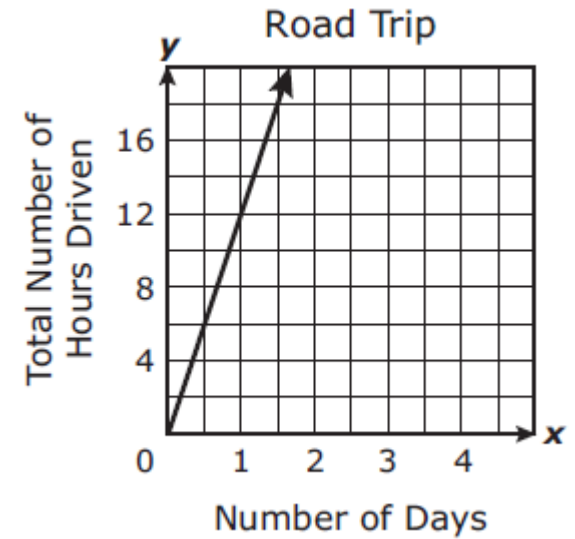
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$



### PROBLEM 3

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

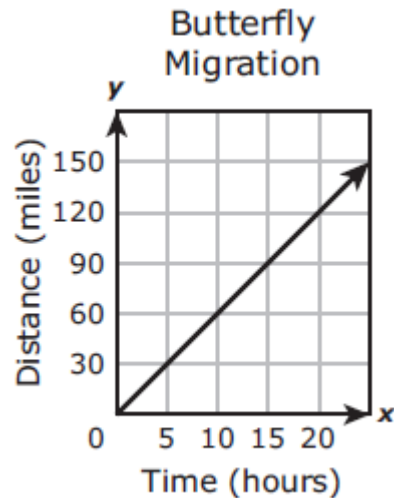
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$



### PROBLEM 4

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

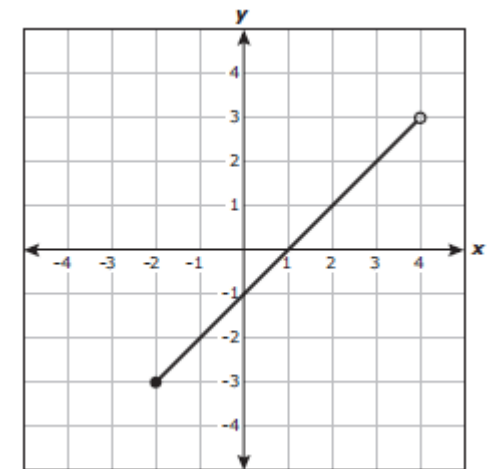
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$



**PROBLEM 5**

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

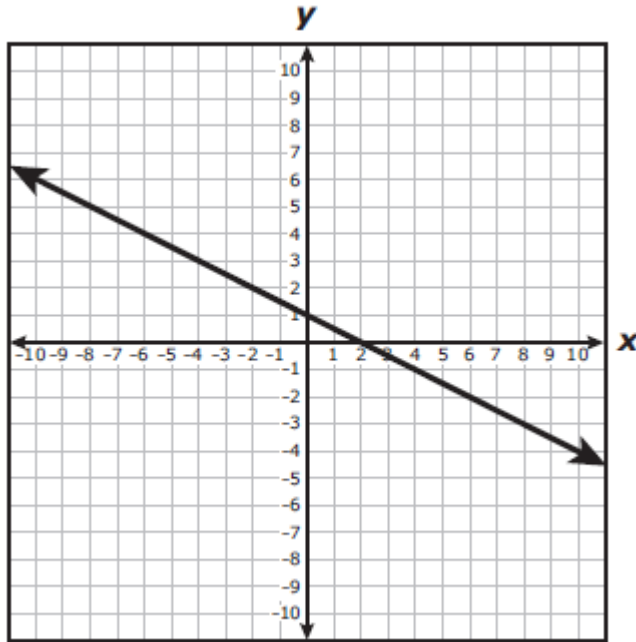
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$

**PROBLEM 6**

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

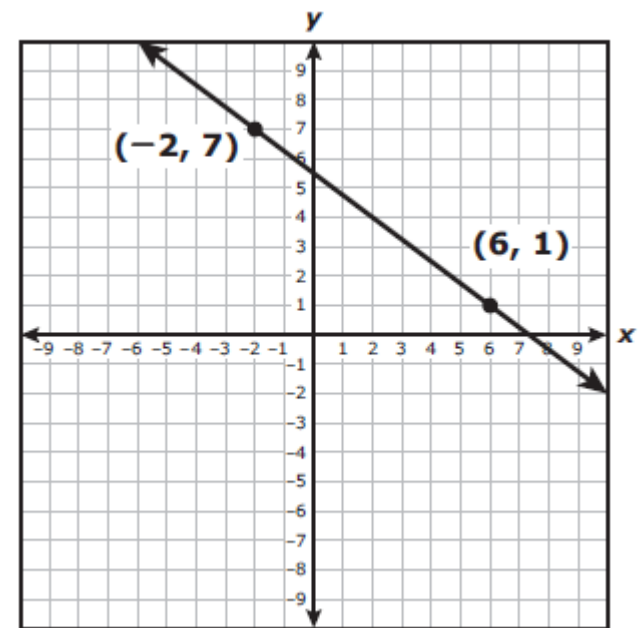
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$

**PROBLEM 7**

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

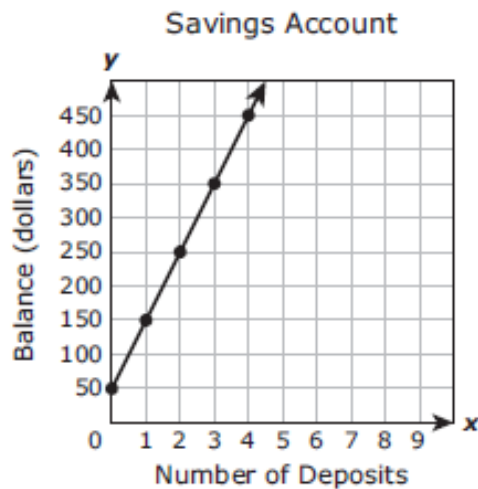
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$

**PROBLEM 8**

What equation represents the relationship between  $x$  and  $y$ ?

**SLOPE:**

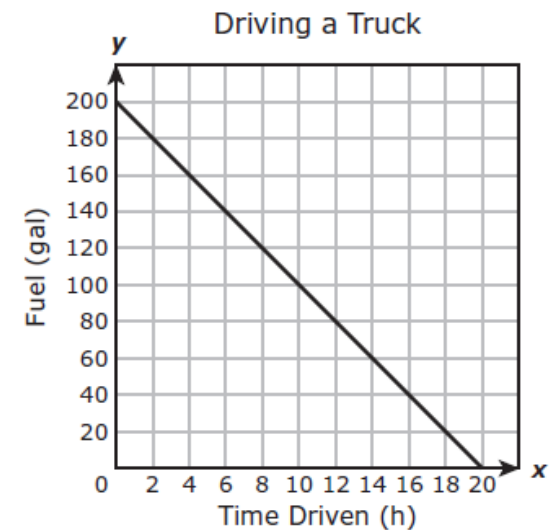
$m =$  \_\_\_\_\_

**Y-INTERCEPT:**

$b =$  \_\_\_\_\_

**EQUATION:**

$y =$



## TABLES

### PROBLEM 1

What equation describes the relationship between  $x$  and  $y$  in the table?

**SLOPE:**  $m =$  \_\_\_\_\_

**Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$  \_\_\_\_\_

$x$	$y$
0	4
2	16
4	28
6	40
10	64

### PROBLEM 2

What equation describes the relationship between the function represented in the table?

Distance Traveled by a Dolphin

**SLOPE:**  $m =$  \_\_\_\_\_

**Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$  \_\_\_\_\_

Time (hours)	Distance (kilometers)
0	0
2	50
4	100
6	150
8	200

### PROBLEM 3

What equation describes the relationship between  $x$  and  $y$  in the table?

**SLOPE:**  $m =$  \_\_\_\_\_

**Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$  \_\_\_\_\_

$x$	$y$
0	14
5	16.5
10	19
15	21.5
20	24

### PROBLEM 4

What equation describes the relationship between the function represented in the table?

Carolyn's Stamp Collection

Number of Months, $x$	1	3	6	10
Number of Stamps, $y$	250	350	500	700

**SLOPE:**  $m =$  \_\_\_\_\_

**Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$  \_\_\_\_\_

### PROBLEM 5

What equation describes the relationship between  $x$  and  $y$  in the table?

**SLOPE:**  $m =$  \_\_\_\_\_

**Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$  \_\_\_\_\_

$x$	$g(x)$
-4	13
-2	10.5
2	5.5
8	-2

### PROBLEM 6

What equation describes the relationship between the function represented in the table?

$x$	-7.5	-3.5	-1	2	3.5
$y$	12	0	-7.5	-16.5	-21

**SLOPE:**  $m =$  \_\_\_\_\_

**Y-INTERCEPT:**  $b =$  \_\_\_\_\_

**EQUATION:**  $y =$  \_\_\_\_\_

### Quick Review:

Circle all equations that represent a **proportional relationship**.

*Ponga un círculo alrededor de todas las ecuaciones que representan una relación proporcional.*