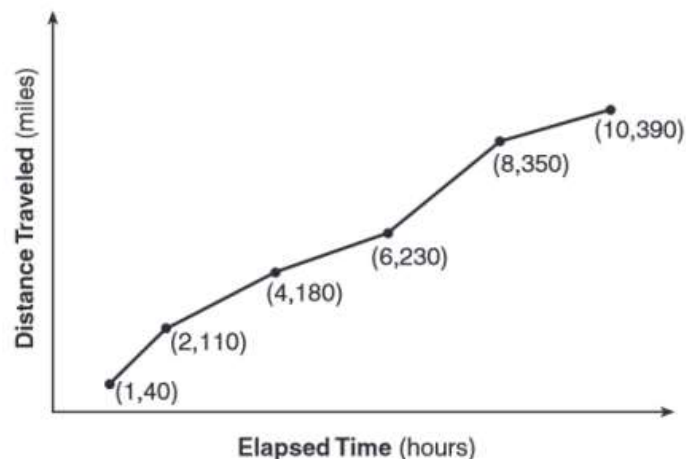


Name \_\_\_\_\_

- 1** The Jamison family kept a log of the distance they traveled during a trip, as represented by the graph below.



During which interval was their average speed the greatest?

- (1) the first hour to the second hour
  - (2) the second hour to the fourth hour
  - (3) the sixth hour to the eighth hour
  - (4) the eighth hour to the tenth hour
- 2** When solving the equation  $4(3x^2 + 2) - 9 = 8x^2 + 7$ , Emily wrote  $4(3x^2 + 2) = 8x^2 + 16$  as her first step. Which property justifies Emily's first step?
- (1) addition property of equality
  - (2) commutative property of addition
  - (3) multiplication property of equality
  - (4) distributive property of multiplication over addition

- 3** Which value of  $x$  satisfies the equation  $\frac{7}{3}\left(x + \frac{9}{28}\right) = 20$ ?

- (1) 8.25
- (2) 8.89
- (3) 19.25
- (4) 44.92

- 4** A company that manufactures radios first pays a start-up cost, and then spends a certain amount of money to manufacture each radio. If the cost of manufacturing  $r$  radios is given by the function  $c(r) = 5.25r + 125$ , then the value 5.25 best represents

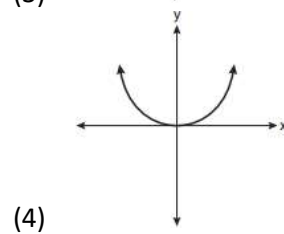
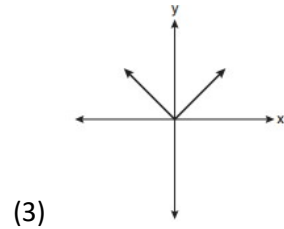
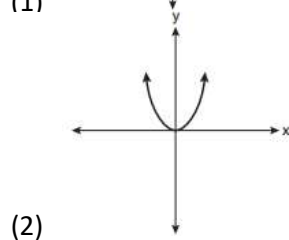
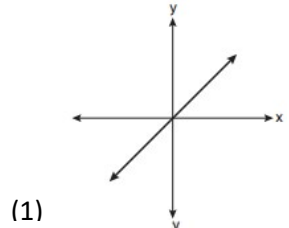
- (1) the start-up cost
- (2) the profit earned from the sale of one radio
- (3) the amount spent to manufacture each radio
- (4) the average number of radios manufactured

- 5** A cell phone company charges \$60.00 a month for up to 1 gigabyte of data. The cost of additional data is \$0.05 per megabyte. If  $d$  represents the number of additional megabytes used and  $c$  represents the total charges at the end of the month, which linear equation can be used to determine a user's monthly bill?

- |                      |                      |
|----------------------|----------------------|
| (1) $c = 60 - 0.05d$ | (3) $c = 60d - 0.05$ |
| (2) $c = 60.05d$     | (4) $c = 60 + 0.05d$ |

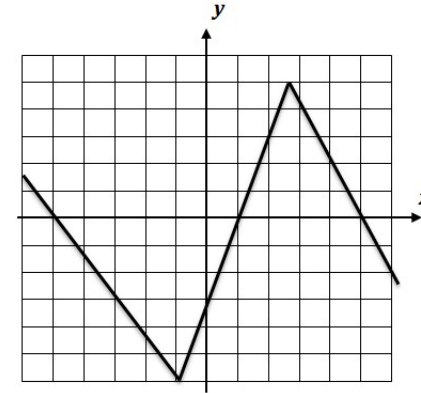
Name \_\_\_\_\_

6. Which graph represents a linear function?



7. Solve for x:  $\frac{3}{2}\left(x - \frac{1}{3}\right) + x = 3$

8. The function  $y = f(x)$  is defined by the graph shown below.



a. Find all values of  $x$  such that  $f(x) = 0$  \_\_\_\_\_.

b. Find  $f(2)$  and  $f(6)$  \_\_\_\_\_.

c. Find all values of  $x$  such that  $f(x) = -3$  \_\_\_\_\_.

d. This function achieves a minimum value of \_\_\_\_\_ when  $x =$  \_\_\_\_\_.

9.) Find three consecutive odd integers such that six times the second decreased by twice the first is equal to twenty more than the sum of the second and third.