

## 2.4- Proportional Relationships and Equations

Name: \_\_\_\_\_

1. Andrea rents a bike for a day. The rental charges can be determined by the equation  $y = 0.5x$ , where  $y$  is the rental charges and  $x$  is the number of days she rents the bike.

- What is the constant of proportionality?
- If Andrea rents a bike for 5 days how much will it cost?



2. Brittany goes to the bakery. The cost of the donuts can be determined by the equation  $y = 1.25x$ , where  $y$  is the total donut cost and  $x$  is the number of donuts she buys.

- What is the constant of proportionality?
- What does the constant of proportionality represent in this situation?
- If Brittany buys a dozen donuts how much will it cost her?

3. Greg needs to find the area of his rectangular garden. The area can be determined by the equation  $A = 5l$ , where  $A$  is the area and  $l$  is the length of the rectangle.

- What is the constant of proportionality?
- What does the constant of proportionality represent in this situation?
- What is the area of the garden with a length of 8?



4. In Greg's garden he plants flowers. The number of flowers in the garden can be determined by the equation  $F = 2b$ , where  $F$  is the number of flowers and  $b$  is the number of bulbs Fred has planted.

- What is the constant of proportionality?
- How many flowers are in Greg's garden if he plants 16 bulbs?

5. Daisy owns a chocolate shop. The number of chocolates sold can be determined by the equation  $y = .63x$ , where  $y$  is the total price and  $x$  is the number of chocolates.

- What is the constant of proportionality?
- What does the constant of proportionality mean in this situation?
- Daisy buys 25 chocolates, how much did she pay?

6. A bowl of Fruit Loops contains 110 calories per serving. Write an equation that represents the number of calories  $y$  in  $x$  servings of fruit loops.

7. At a pizza place 5 pizzas cost you \$60.

a. Write an equation to represent the total cost  $y$  of buying  $x$  pizzas.

b. How much will 9 pizzas cost you?



8. At the grocery store 6 stuffed peppers cost \$36.

a. Write an equation to represent the total cost  $y$  of buying  $x$  stuffed peppers.

b. How much will 12 stuffed peppers cost?

9. Mrs. Afoa needs to buy some candy bars for her class. At the nearest store, 3 boxes of candy bars cost \$15.75. How much would Mrs. Afoa spend on 5 boxes of candy bars?

10. You bike 11.2 miles in 1.4 hours at a steady rate. Write an equation that represents the proportional relationship between the  $x$  hours you bike and the distance  $y$  in miles that you travel.

11. A pet store sells cans of dog food. Use the table to write an equation you can use to find the cost  $y$  in dollars for  $x$  cans of dog food.

| Number of cans ( $x$ ) | Cost in Dollars ( $y$ ) |
|------------------------|-------------------------|
| 7                      | 8.05                    |
| 9                      | 10.35                   |
| 13                     | 14.95                   |
| 17                     | 19.55                   |

12. Ms. Tomeo uses the equation  $y = 6.25x$  to calculate the total cost  $y$  in dollars for  $x$  pack of markers.

a. How much does one pack of markers cost?

b. How much would Ms. Tomeo spend on 5 pack of markers?

