

**ANALYZING FUNCTIONAL RELATIONSHIPS – Day 2**

**A book club charges an annual fee of \$25 and \$9.50 for each book that is purchased.**

1. Write a function to find the annual cost,  $A$ , for purchasing  $b$  books.

Equation: \_\_\_\_\_ In function notation: \_\_\_\_\_

2. What would be the annual cost of purchasing a book each month? \_\_\_\_\_

3. How many books were purchased if the annual cost was \$177.00? \_\_\_\_\_

4. *Circle one:* The domain is discrete / continuous.

**When the meter in a taxi is first turned on, it reads \$2.20. As the taxi travels, \$1.90 is added for each mile driven.**

5. Write a function to find the total cost of the taxi ride,  $T$ , for traveling  $m$  miles.

Equation: \_\_\_\_\_ In function notation: \_\_\_\_\_

6. What is the value of  $T(22)$ ?

Meaning of this question in words: \_\_\_\_\_

$T(22) =$  \_\_\_\_\_

7. How many miles were traveled if the taxi ride cost was \$27.85? \_\_\_\_\_

8. *Circle one:* The domain is discrete / continuous.

9. Joseph needs to travel between 5 and 10 miles to reach his destination. What inequality represents the range of the function for this situation?

- A.  $\{12.08, 20.82\}$                       C.  $12.08 \leq T \leq 20.82$   
B.  $11.7 \leq T \leq 21.2$                       D.  $\{11.7, 21.2\}$

**A customer pays an annual membership fee of \$85 to a neighborhood car wash. Each time he takes his car to the car wash, he pays only \$7. The total amount of money he spends at the car wash in one year in dollars can be found using the function  $y = 7x + 85$ .**

10. How much will it cost if he takes his car to the car wash each month? \_\_\_\_\_

11. If he pays a total of \$127, how many times did he take his car to the car wash? \_\_\_\_\_

12. \_\_\_\_\_ What does the variable  $x$  represent in this function?

- A. The total amount of money the customer spends each month at the car wash  
B. The number of months the customer has been a member at the car wash  
C. The number of times the customer takes his car to the car wash in one year  
D. The cost each time the customer takes his car to the car wash

13. \_\_\_\_\_ If he pays between \$141 and \$162 this year, what is the domain of this situation?

- A.  $141 \leq y \leq 162$                       C.  $8 \leq x \leq 11$   
B.  $\{141, 148, 155, 162\}$                       D.  $\{8, 9, 10, 11\}$

### REVIEW.

14. One house painter charges an initial fee of \$25, plus \$15 per hour. A second painter charges \$25 per hour. How many hours would it take for the charge of the second painter to be the same as the charge of the first painter?

Equation: \_\_\_\_\_

- A. 1  
B.  $1\frac{1}{2}$   
C. 2  
D. Not here