# HW Quiz A Modeling #2 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A rental car company charges $30 plus $.20 per mile to rent a car. The **cost, C (in dollars)** would depend on the **number of miles driven, m**, according to the rule **C = 30 + .20n**

1. Use the function rule to complete this table of sample (*n, C*) values:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| #of miles driven (m) | 0 | 1 | 2 | 3 | 4 | 5 | 10 | 20 | 50 |
| Cost(C) |  |  |  |  |  |  |  |  |  |

**c. i)** How much will the car rental cost if they don’t drive the car at all?

 ii) How can this information be seen in the rule**C = 30 + .20n**

 iii) How can this information be seen In **the table** of sample (*m, C*) values?

 iv) How can this information be seen In **the graph**?

**d.** i) How much does each mile driven cost?

 ii) How can this information be seen in the rule **C = 30 + .20n**

 iii) How can this information be seen in the **table**?

 iv) How can this information be seen in the In the **graph**?

**e.** Write a recursive rule for the situation described above.

1. For the following function: evaluate the given function using the function $g\left(x\right)=5+2x$

# a. g(-2) = b. g(x) = 4

# The graph below shows graphs of pay plans offered by 3 different banks to employees who collect credit card applications.

# Atlantic Bank: A = 50 + 2n Boston Bank: B = 40 +5n Consumer Bank: C = 50 + 3x

# Match each function rule with its graph by placing the letter A, B, or C next to the correct graph.

# Explain what the numbers in the rule for Atlantic Bank tell you about the relationship between daily pay and number of credit card applications collected.

#

# Some cleaning companies have their employees go door to door to sell their products. Tim earns a base salary plus a commission on each sale. His weekly earnings depend on the number of cleaning products he sales as shown in the table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of Cleaning Products Sold | 3 | 6 | 9 | 12 |
| Weekly Earnings (in dollars) | 500 | 800 | 1100 | 1400 |

1. How do you know that Tim’s weekly earnings are a linear function of the number of cleaning products sold?
2. Determine the rate of change in earnings as sales increase.
3. What would Tim’s earning be for a week in which he sold zero cleaning products?
4. Use your answers from part b and c to write a rule in function form.
5. What would Tim’s weekly earning be if he sold 20 cleaning products?

# HW Quiz B Modeling #2 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A rental car company charges $20 plus $.30 per mile to rent a car. The **cost, C (in dollars)** would depend on the **number of miles driven, m**, according to the rule **C = 20 + .30n**

1. Use the function rule to complete this table of sample (*n, C*) values:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| #of miles driven (m) | 0 | 1 | 2 | 3 | 4 | 5 | 10 | 20 | 50 |
| Cost(C) |  |  |  |  |  |  |  |  |  |

**c. i)** How much will the car rental cost if they don’t drive the car at all?

 ii) How can this information be seen in the rule**C = 20 + .30n**

 iii) How can this information be seen In **the table** of sample (*m, C*) values?

 iv) How can this information be seen In **the graph**?

**d.** i) How much does each mile driven cost?

 ii) How can this information be seen in the rule **C = 20 + .30n**

 iii) How can this information be seen in the **table**?

 iv) How can this information be seen in the In the **graph**?

**e.** Write a recursive rule for the situation described above.

1. For the following function: evaluate the given function using the function $g\left(x\right)=5+2x$

*a. g(-3) = b. g(x) = 6*

# The graph below shows graphs of pay plans offered by 3 different banks to employees who collect credit card applications.

# Atlantic Bank: A = 50 + 2n Boston Bank: B = 50 + 3x Consumer Bank: C = 40 +5n

# Match each function rule with its graph by placing the letter A, B, or C next to the correct graph.

# Explain what the numbers in the rule for Boston Bank tell you about the relationship between daily pay and number of credit card applications collected.

#

# Some cleaning companies have their employees go door to door to sell their products. Tim earns a base salary plus a commission on each sale. His weekly earnings depend on the number of cleaning products he sales as shown in the table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of Cleaning Products Sold | 3 | 7 | 11 | 15 |
| Weekly Earnings (in dollars) | 500 | 600 | 800 | 1000 |

1. How do you know that Tim’s weekly earnings are a linear function of the number of cleaning products sold?
2. Determine the rate of change in earnings as sales increase.
3. What would Tim’s earning be for a week in which he sold zero cleaning products?
4. Use your answers from part b and c to write a rule in function form.
5. What would Tim’s weekly earning be if he sold 25 cleaning products?