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

Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CC Algebra

Cumulative Review #3.1

**Show work for all questions for full credit**

**& write your answers on the lines provided!!!**

(*If you feel no work is needed you must explain your reasoning.)*

1. If the function *h(x)* represents the number of full hours that it takes a person to assemble *x* sets of tires in a factory, which would be an appropriate domain for the function? Explain.

A. the set of real numbers

B. the set of negative integers

C. the set of integers

D. the set of non-negative integers

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Alex makes ceramic bowls to sell at a monthly craft fair. Every month, she spends $50 on materials for the bowls from a local art store. At the fair, she sells each completed bowl for a total of $25 including tax. Which equation expresses Alex’s profit as a function of the number of bowls that she sells in one month?

A. p(x) = 50x + 25

B. p(x) = 15x + 25

C. p(x) = 25x

D. p(x) = 25x – 50

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Find the product of 5y2 + 3y and 6y – 1 Express your answer in simplest form.

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Find the range of the function using the given domain.

*f*(*x*)= *x*3 + 1; domain = {−2, −1, 0, 1, 2}

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Denise watches a meteor shower and records the number of meteors, *m*, she has seen *t* hours after sunset. She collects the data in the following chart.

|  |  |
| --- | --- |
| ***t*** | ***m*** |
| 0 | 5 |
| 1 | 15 |
| 2 | 30 |
| 3 | 75 |
| 4 | 150 |

Find the average rate of change between *t* = 2 and *t* = 4. Use appropriate units in your answer.

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_