Name: _____ Date: _____ Per._____

2.1 – 2.3 Review

Compare discrete and continuous.

Compare linear and exponential.

Identify whether the following statements represent a ***discrete*** or a ***continuous*** relationship.

1. Every 4 hours she takes a gum ball out of the candy machine.
2. Bacterial steadily grows in the microwave.
3. Water flows over Niagara Falls.
4. Geometric sequence.
5. Arithmetic sequence.
6. Buying concert tickets to see Magic Dragons.

Identify whether the following items best fit with a discrete or a continuous model. Then determine whether it is a linear or exponential relationship that is being described.

7. Mold grows by a factor of 3 cm every hour and it started at 4 cm.

    a) Write the equation for #7.

    b) Is the mold from #7:

        I. A sequence because there is a pattern of multiplying by 3 every hour?

        II. A sequence because there is a pattern of adding 3 every hour?

        III. Not a sequence because there is no pattern

        IV. Not a sequence because it is continuous

Name: _____ Date: _____ Per._____

8. Bacterial is growing steadily in the microwave. It's doubling each day.

   a) Write the equation for #8

   b) Is the bacterial from #8:

      I. A sequence because there is a pattern of multiplying by 2 each day?

      II. A sequence because there is a pattern of adding 2 each day?

      III. Not a sequence because there is no pattern

      IV. Not a sequence because it is continuous

9. Given $f(x) = 4(3)^x$. What is the domain of the function in set notation?

   a) $\{x \in N\}$
   b) $\{x \in Z,\ x \geq 0\}$
   c) $\{x \in Q,\ x \geq 0\}$
   d) $\{x \in R,\ x \geq 0\}$

10. What is the domain of the function in set notation given the table of values below?

Hour	1	2	3	4
Tickets sold	40	80	120	160

   a) $\{x \in N\}$
   b) $\{x \in Z,\ x \geq 0\}$
   c) $\{x \in Q,\ x \geq 0\}$
   d) $\{x \in R,\ x \geq 0\}$