NCM1B Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 5 Lesson 2 Homework: Explicit Growth and Decay**

During the 2014 Oscar’s Ellen DeGeneres took this selfie and “tweeted” it. Within minutes it broke the record for most retweets momentarily causing Twitter to go down. It still remains the most re-tweeted post in Twitter’s history.

Each minute Ellen’ selfie was retweeted about 2.5 times.

1. Make a table that shows the number of people who will retweet Ellen’s selfie 10 minutes after it was initially posted. Round your answers to two decimal places.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of Minutes | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Number of Retweets | 1 | 2.5 |  |  |  |  |  |  |  |  |  |



2. Plot the data on a graph for the first 5 minutes.

 Make sure you have a title and accurate axis labels and scales.

3. What is the initial value in this situation?

4. What is the growth factor?

5. Write a NEXT-NOW rule to illustrate the Retweet process.

6. Write an explicit equation that will allow you to calculate

 how many Retweets(y) there are at any time (x).

7. Use the equation above to predict how many Retweets

 there will be after 15 minutes and again after 20 minutes.

8. Suppose that instead of 2.5 retweets the number of retweets triples every minute. Write an explicit equation which describes the number of Retweets y after each minute x.

9. Using your new equation, determine the number of Retweets after 15 minutes and again after 20 minutes.