Sequences Review

1. A bacteria colony starts with 3 bacteria and doubles every hour. Write an explicit equation to model this situation.

2. Given $f(n)=10∙ (\frac{3}{5})^{n}$ identify the common ratio (r) and indicate if the function is growing or declining.

3. Three bacteria land on the counter and starts growing by a factor of 5 every hour. After how many hours will the number of bacteria exceed 500?

4. Convert the recursive formula $f\left(n\right)=f\left(n-1\right)+5$ with $f(1)=3$ to an explicit equation.

5. Write a recursive formula for the equation: $f(n)=3(7)^{n}$

6. An initial value of a vehicle is $12,500 and is decreasing by 5% yearly. Write an explicit equation to model this situation.

From the following two tables, choose **A** for **Arithmetic** or **G** for **Geometric** or **N** for **Neither** in the space provided. Then write the explicit and recursive rule.

1. \_\_\_\_\_\_\_\_\_\_\_\_ 10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Term Number | Value |
| 1 | 625 |
| 2 | 125 |
| 3 | 25 |
| 4 | 5 |

|  |  |
| --- | --- |
| Term Number | Value |
| 0 | 10 |
| 1 | 4 |
| 2 | -2 |
| 3 | -8 |

11. Recursive:

12. Explicit:

8. Recursive:

9. Explicit: