Name _____ Date: _____ Period: _____ Score: _____

Unit 2 Day 2 – Arithmetic vs Geometric Sequences Assignment

1. **2, 4, 6, 8, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

2. **2, 4, 8, 16, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

3. **20, 10, 5, 2.5, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

4. **2, 5, 8, 11, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

5. **30, 24, 18, 12, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

6. **3, 1.5, 0, -1.5, -3, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

7. **2, 6, 18, 54, . . .**
   a. Is this sequence arithmetic or geometric?
   b. Find the next two terms in the sequence:
   c. Does this sequence have a common difference? If so, what is it?
   d. Does this sequence have a growth factor? If so, what is it?
   e. Write a recursive formula for this sequence:

8. How can you tell if a sequence is arithmetic or if it is geometric?

Solve the following equations for the unknown variable.

9. $3(x-1)=2(x+3)$

10. $7(x+20)=x+5$

11. $9(x-2)=3x+3$

12. $2\left(a-\frac{1}{3}\right)=\frac{2}{5}\left(a+\frac{2}{3}\right)$

The one who falls and gets up is so much stronger than the one who never fell.