Name: _____ Period: _____

Unit 3 Review – Regular

1. What is the difference between Arithmetic and Geometric Sequences?

For questions 2 – 5, find the sequence that doesn't belong and tell why.

2.   A) 5, 20, 80, …
      B) 900, 300, 100, …
      C) 3, 6, 12, …
      D) 2, 8, 14, …
Which doesn't belong? _____ Why? _____

3.   A) 64, 8, 1, …
      B) 20, 10, 0, …
      C) -5, -8, -11, …
      D) -12, -24, -36, ….
Which doesn't belong? _____ Why? _____

4.   A) 5, 6, 7, …
      B) 5, 6, 8, ….
      C) 5, 10, 15, …
      D) 5, 12, 19, …
Which doesn't belong? _____ Why? _____

5.   A) 50, 10, 2, …
      B) 50, 25, 12.5, …
      C) 50, 50, 50, …
      D) 50, 45, 40, ….
Which doesn't belong? _____ Why? _____

For questions 6- 13,
a) Tell if the sequences is Arithmetic, Geometric, or Neither and **explain why.**
If the sequence if Arithmetic or Geometric then:
b) Find the next three terms
c) Write the recursive equation **USING FUNCTION NOTATION**

6. $-5, -10, -20, ...$

a)

b)

c)

7. $3, 1, \dfrac{1}{3}, ...$

a)

b)

c)

8. -7, -21, -63, ...

a)

b)

c)

9. 15, 13, 11, 9, ...

a)

b)

c)

10. 15, 10, 6, 3, ...

a)

b)

c)

11. -12.3, -9.7, -7.1, -4.5, ...

a)

b)

c)

12. 0.02, 1.08, 2.14, 3.2,

a)

b)

c)

13. - ½ , 0, ½, 1, ...

a)

b)

c)

For questions 14- 21,
a) Tell if the sequences is Arithmetic, Geometric, or Neither and **explain why.**
If the sequence if Arithmetic or Geometric then:
b) Find the next three terms
c) Write the recursive equation **USING FUNCTION NOTATION**

14. $\dfrac{3}{8}, \dfrac{3}{4}, \dfrac{3}{2}, \dots$

a)

b)

c)

15. -8, -4, 0, ...

a)

b)

c)

16.

Term	-3	-2	-1
Value	-6	-12	-24

a)

b)

c)

17. $-0.6, -0.12, -0.024, \dots$

a)

b)

c)

18. $2, 3, 5, 8, \dots$

a)

b)

c)

19.

x	5	6	7
$f(x)$	4.3	7	9.7

a)

b)

c)

20. $\dfrac{3}{4}, \dfrac{3}{28}, \dfrac{3}{196}, \dots$

a)

b)

c)

21. $\dfrac{-2}{7}, \dfrac{-16}{7}, \dfrac{-128}{7}, \dots$

a)

b)

c)

For questions 22-25,
Given the recursive equation, create the original sequence with the first 5 terms.

22.
$f(x) = f(x-1) - 123; \ f(1) = 543$

23.
$f(x) = f(x-1) - 27; \ f(1) = -15$

_____, _____, _____, _____, _____

_____, _____, _____, _____, _____

24.
$f(x) = f(x-1) \bullet 4; \ f(1) = -3$

25.
$f(x) = f(x-1) \bullet \dfrac{1}{3}; \ f(1) = 7$

_____, _____, _____, _____, _____

_____, _____, _____, _____, _____

For 26-31,
a) Find the missing term(s)
b) Tell if the sequence is Arithmetic or Geometric and **tell how you know**.

26. $8, \underline{\quad}, 20, 26$

29. $20, \underline{\quad}, \dfrac{4}{5}, \dfrac{4}{25}$

27. $9, 16, \underline{\quad}, \underline{\quad}, 37$

30. $-50, -46, \underline{\quad}, \underline{\quad}, -34$

28. $8, 4, \underline{\quad}, 1$

31. $2, 12, \underline{\quad}, 432$