Algebra II – Mrs. Tilus Name _____
Unit 10 Review
"We like good quotes." ELKS

1. Identify the following as arithmetic, geometric, or neither. Also find the next 2 terms.

a.) $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \_\_\_\_\_, \_\_\_\_\_$ Circle one: Arithmetic Geometric Neither

b.) 3, -6, 9, -12, _____ , _____ Circle one: Arithmetic Geometric Neither

c.) 729, 243, 81, 27, _____ , _____ Circle one: Arithmetic Geometric Neither

2. Write the formula for the following sequence.

-2, 4, 10, 16, ….

3. Find the specified term of the arithmetic sequence.

20, 17, 14, … ; t_{20}

4. Find the position, n, of the underlined term.

-5, 0.5, 6, 11.5, …, <u>127</u>

5. Insert three arithmetic means between 12 and 2.

6. Write the formula for the following sequence.

-6, -12, -24, …

7. Find the specified term of the geometric sequence.

$\frac{1}{9}, \frac{-1}{3}, 1, -3, \ldots; \quad t_{15}$

8. Find the position, n, of the underlined term.

4, 16, 64, 256, …, <u>16777216</u>

9. Insert three geometric means between 81 and 1.

10. Write the series in expanded form, and find its sum.

a.) $\sum_{k=1}^{5} 4k-3$

b.) $\sum_{k=2}^{6} 4(2)^{(k-1)}$

11. Rewrite the series into sigma notation.

a.) 6 + 12 + 24 + … + 98304

b.) 5 + 8 + 11 + 14 + …

12. A wealthy mother gives her daughter $5 on her first birthday, $10 on her second birthday, $20 on her third birthday, and $40 on her fourth birthday. If this pattern continues, what will be the gift on her 28^{th} birthday?