Secondary Math 3   Name_____ ID: 1
7-2 Assignment   Date_____ Period____

Evaluate each geometric series described.

1) $-1.5 + 6 - 24 + 96...,\ n = 6$

2) $-1.5 + 3 - 6 + 12...,\ n = 9$

3) $-3 - 6 - 12 - 24...,\ n = 8$

4) $2 + 8 + 32 + 128...,\ n = 6$

Evaluate each infinite geometric series described.

5) $4.6 + 2.3 + 1.15 + 0.575...$

6) $5 - \dfrac{5}{2} + \dfrac{5}{4} - \dfrac{5}{8}...$

7) $32 - 16 + 8 - 4...$

8) $2 + 8 + 32 + 128...$

Evaluate each arithmetic series described.

9) $a_1 = -25,\ a_n = -95,\ n = 8$

10) $a_1 = 25,\ a_n = 75,\ n = 6$

11) $6 + 10 + 14 + 18...,\ n = 18$

12) $(-4) + (-8) + (-12) + (-16)...,\ n = 16$

13) You are investigating two employment opportunities. Company A offers $33,000 the first year. During the next four years the salary is guaranteed to increase by 7% per year. Company B offers $35,000 the first year, with guaranteed annual increases of 4% per year after that. Which company offers the better total salary for a five-year contract?

14) The height a ball bounces is less than the height of the previous bounce due to friction. Suppose a ball is dropped from a height of 4 feet and rebounds to 98% of the height of the previous bounce. Write the series in sigma notation. What is the total vertical distance traveled by the ball when it comes to rest?

15) A company offers a starting yearly salary of $28,500 with raises of $1,000 each year after the first year. Find the total salary over a 15-year period.