P5-7: Geometric Sequences & Series
Honors Advanced Algebra

Name: _____
Period: _____ Date: _____

Is the sequence geometric? If it is, what are a_1 and r?

1. $2, 4, 8, 16, \ldots$
2. $1, 5, 9, 13, 17, \ldots$
3. $2^3, 2^7, 2^{11}, 2^{15}, \ldots$
4. $1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \ldots$

What are the indicated terms of the geometric sequence?

5. The second term of the geometric sequence $3, \_\_, 12, \ldots$
6. The eighth term of the geometric sequence $10, 5, 2.5, \ldots$
7. When radioactive substances decay, the amount remaining will form a geometric sequence when measured over constant intervals of time. The table below shows the amount of Np-240, a radioactive isotope of Neptunium, initially and after 2 hours. What are the amounts left after 1 hour, 3 hours and 4 hours?

Hours Elapsed	0	1	2	3	4
Grams of Np-240	1244		346		

Evaluate the sum of the finite geometric series.

8. $-5 - 10 - 20 - 40 - \cdots - 2560$
9. $\frac{1}{5} + \frac{1}{10} + \frac{1}{20} + \frac{1}{40} + \frac{1}{80}$
10. $9 - 6 + 4 - \frac{8}{3} + \frac{16}{9}$