Algebra 2 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Finite Geometric Series WS#1 Per. \_\_\_\_\_\_\_\_\_\_

Find the sum of each geometric series.

1. $\sum\_{k=1}^{6}3(4)^{k-1}$
2. $\sum\_{k=1}^{8}4(\frac{1}{2})^{k-1}$
3. S6 for 2 + 0.2 + 0.002 + …
4. S5 for 12 – 24 + 48 – 96 + …
5. S8 for 10 + 1 + $\frac{1}{10}$ + $\frac{1}{100}$+ …

Given each geometric sequence, (a) write an explicit rule for the sequence, (b) find the 10th term, and (c) find the sum of the first 10 terms.

1. $\frac{1}{16}, \frac{1}{8}, \frac{1}{4}, \frac{1}{2}, …$
2. $4, 0.4, 0.04, 0.004, …$
3. $8, 16, 32, 64, …$
4. $162, -54, 18, -6, …$
5. $-22, -11,- \frac{11}{2}, -\frac{11}{4}, …$