Day 7: Geometric Sequences Practice Assignment **Name:** _____

Directions: Tell whether the sequence is geometric. Explain why or why not.
If it is geometric, write the explicit rule for the sequence. Then find a_5.

1) 3, 6, 12, 24, …

2) 1, 3, 9, 81,…

3) $1, -\frac{1}{2}, \frac{1}{4}, -\frac{1}{6}$…

4) 75, 15, 3, $\frac{3}{5}$,…

5) -8,-0.8, -0.08,-0.008,…

6) 16, -8, 4, -2,…

Write the explicit rule for the geometric sequence and then find a_8

7) $a_1 = 5, r = 3$

8) $a_1 = 81, r = \frac{1}{3}$

9) $a_1 = \frac{1}{2}, r = -4$

10) $a_1 = 0.4, r = \frac{1}{10}$

Write the explicit rule for the geometric sequence and then find a_6.

11) 2, 10, 50, 250, …

12) 100, 75, 56.25, 42.1875, …

13) 525, 375, 225, 135, …

14) 2, -6, 18, -54, …

15) $a_3 = -44\,,\ r = -2$

16) $a_4 = 54\,,\ r = 3$

Write the recursive rule for the geometric sequence.

17) 2, 6, 18, 54, …

18) 64, 16, 4, 1, …

Find the first 4 terms of the sequence given the rule. Pay attention to whether it's recursive or closed.

19) $a_n = 3(-2)^{n-1}$

20) $a_1 = -2,\ \ a_n = 4a_{n-1}$

21) $a_1 = 20,\ \ a_n = -\frac{1}{2}a_{n-1}$

22) $a_n = 200\left(\frac{2}{5}\right)^{n-1}$