Name: _____

Geometric Sequence and Series

Exercise 1: Find the 10th term.

1) 2, 6, 18, 54, 162 . . .

2) 0.4, 0.04, 0.004, 0.0004 . . .

3) 5, 10, 20, 40 . .

Exercise 2: Find the first five terms and the common ratio of the geometric sequence

1) $a_n = \left(-\dfrac{1}{2}\right)^{n-1}$

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

3) $a_n = (7)^{n-1}$

4) $a_n = \dfrac{1}{2} \bullet (3)^{n-1}$

Exercise 3: Find S$_9$ for

1) $a_n = 3 \times 2^{n-1}$

2) $a_n = 2 \times 5^{n-1}$

3) $a_n = 7 \times 2^{n-1}$

4) $a_n = 9 \times (2.5)^{n}$

5) $a_n = 6.5 + (2.1)^{n-1}$

Exercise 4: Is each sequence geometric? If it is, what is the common ratio, *r* ?

1) 1, 3, 9, 27, ...

2) 1, 2, 3, 4, ...

3) 0.1, –0.2, 0.4, –0.8, ...

4) 100, 90, 80, 70, ...

5) 2, –5, $\dfrac{25}{2}$, $-\dfrac{125}{4}$

6) $\dfrac{1}{10}$, $\dfrac{1}{100}$, $\dfrac{1}{1000}$, $\dfrac{1}{10000}$, ...

Grade 11