

Math II
Geometric Sequences and Series

Name: _____

Date: _____ Pd. _____

Determine if the sequence is geometric. If it is, find the common ratio.

1) $-1, 6, -36, 216, \dots$

2) $4, 16, 36, 64, \dots$

3) $-2, -4, -8, -16, \dots$

Given the explicit formula for a geometric sequence find the first five terms and the 8th term.

4) $g^n = 3^{n-1}$ a) first 5 terms: _____ b) 8th term: _____

5) $g^n = -2.5 \cdot 4^{n-1}$ a) first 5 terms: _____ b) 8th term: _____

6) $g^n = 10 \cdot 1/2^{n-1}$ a) first 5 terms: _____ b) 8th term: _____

7) $g^n = 120 \cdot .25^{n-1}$ a) first 5 terms: _____ b) 8th term: _____

Given the recursive formula for a geometric sequence find the common ratio, the first five terms, and the explicit formula.

8) $g^n = g^{n-1} \cdot 2 ; g^1 = 4$ a) common ratio: _____
b) 1st 5 terms: _____
c) explicit formula: _____

9) $g^n = g^{n-1} \cdot 3 ; g^1 = 4$ a) common ratio: _____
b) 1st 5 terms: _____
c) explicit formula: _____

10) $g^n = g^{n-1} \cdot -6 ; g^1 = 3$ a) common ratio: _____
b) 1st 5 terms: _____
c) explicit formula: _____

Given the first term and the common ratio of a geometric sequence find the first five terms and the explicit formula.

11) $g^1 = 0.8, r = -5$

a) first 5 terms: _____

b) explicit formula: _____

12) $g^1 = 1, r = \frac{1}{2}$

a) first 5 terms: _____

b) explicit formula: _____

13) $g^1 = -15, r = 10$

a) first 5 terms: _____

b) explicit formula: _____

Given a term in a geometric sequence and the common ratio find the first five terms, the explicit formula, and the recursive formula.

14) $g^1 = 4, r = 5$

a) first 5 terms: _____

b) explicit formula: _____

c) recursive formula: _____

15) $g^2 = 3, r = 2$

a) first 5 terms: _____

b) explicit formula: _____

c) recursive formula: _____

16) $g^5 = 12, r = \frac{1}{2}$

a) first 5 terms: _____

b) explicit formula: _____

c) recursive formula: _____

17) $g^{10} = -6, r = -4$

a) first 5 terms: _____

b) explicit formula: _____

c) recursive formula: _____