Name : _____ Score : _____

Teacher : _____ Date : _____

Geometric Sequences

Determine whether each sequence is geometric. If so, find the common ratio.

1) 4, -8, 16, -32 ...

2) 1, -4, -8, 8 ...

3) 3, 18, 108, 648 ...

4) 5, -20, 80, -320 ...

Find the first four terms and stated term given the geometric sequence, with a_1 as the 1st term.

5) $a_n = 2 \cdot -3^{n-1}$, a_7

6) $a_n = 5^n$, a_7

7) $a_n = 3^{n-1}$, a_5

8) $a_n = 4 \cdot 2^{n-1}$, a_5

Given the first term and common ratio, find the first four terms and the explicit formula.

9) $a_1 = 5$, $r = 4$

10) $a_1 = 3$, $r = -5$

11) $a_1 = 2$, $r = -6$

12) $a_1 = 1$, $r = 2$

Name : _____ Score : _____

Teacher : _____ Date : _____

Geometric Sequences

Determine whether each sequence is geometric. If so, find the common ratio.

1) 4, -8, 16, -32 ...

Common Ratio: -2

2) 1, -4, -8, 8 ...

Not a valid geometric sequence

3) 3, 18, 108, 648 ...

Common Ratio: 6

4) 5, -20, 80, -320 ...

Common Ratio: -4

Find the first four terms and stated term given the geometric sequence, with a_1 as the 1st term.

5) $a_n = 2 \cdot -3^{n-1}$, a_7

2, -6, 18, -54 ...

$a_7 = 1458$

6) $a_n = 5^n$, a_7

5, 25, 125, 625 ...

$a_7 = 78125$

7) $a_n = 3^{n-1}$, a_5

1, 3, 9, 27 ...

$a_5 = 81$

8) $a_n = 4 \cdot 2^{n-1}$, a_5

4, 8, 16, 32 ...

$a_5 = 64$

Given the first term and common ratio, find the first four terms and the explicit formula.

9) $a_1 = 5, r = 4$

1st 4 Terms: 5, 20, 80, 320 ...

Formula: $a_n = 5 \cdot 4^{n-1}$

10) $a_1 = 3, r = -5$

1st 4 Terms: 3, -15, 75, -375 ...

Formula: $a_n = 3 \cdot -5^{n-1}$

11) $a_1 = 2, r = -6$

1st 4 Terms: 2, -12, 72, -432 ...

Formula: $a_n = 2 \cdot -6^{n-1}$

12) $a_1 = 1, r = 2$

1st 4 Terms: 1, 2, 4, 8 ...

Formula: $a_n = 2^{n-1}$