

**Level 1**

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

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

2)  $-1, 1, 4, 8, \dots$

3)  $4, 16, 36, 64, \dots$

4)  $-3, -15, -75, -375, \dots$

**Level 2**

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

1)  $a_n = a_{n-1} \cdot 2$   
 $a_1 = 2$

2)  $a_n = a_{n-1} \cdot -3$   
 $a_1 = -3$

Given the first term and the common ratio of a geometric sequence find the recursive formula and the three terms in the sequence after the last one given.

1)  $a_1 = -4, r = 6$

2)  $a_1 = 4, r = 6$

**Level 3:**

Given two terms in a geometric sequence find the 8th term and the recursive formula.

1)  $a_4 = -12$  and  $a_5 = -6$

2)  $a_5 = 768$  and  $a_2 = 12$

**Reason** A geometric sequence has a common ratio of 4. The 5th term is 20. What is the 4th term? What is the 6th term?