Geometric Sequences

Recursively…

Name_____

Date_____

Level 1

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

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

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

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

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

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 5thterm is 20. What is the 4th term? What is the 6th term?

LIVEWORKSHEETS