12.2 Geometric Sequences Day 2

Date_____ Period____

Determine if the sequence is geometric. If it is, find the common ratio, the 8th term, the explicit formula, and the recursive formula.

1) $-3,\ -18,\ -108,\ -648,\ ...$

2) $-4,\ -20,\ -100,\ -500,\ ...$

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

3) $a_n = -4 \cdot (-5)^{n-1}$

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

4) $a_n = a_{n-1} \cdot -5$
$a_1 = 1$

Given a term in a geometric sequence and the common ratio find the explicit formula.

5) $a_6 = -31104,\ r = 6$

6) $a_3 = -108,\ r = 6$

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

7) $a_1 = -4$ and $a_4 = -500$

8) $a_3 = -36$ and $a_2 = 6$

9) $a_6 = -1024$ and $a_1 = 1$

10) $a_3 = 16$ and $a_6 = 1024$

Answers to 12.2 Geometric Sequences Day 2 (ID: 1)

1) Common Ratio: $r = 6$
$a_8 = -839808$
Explicit: $a_n = -3 \cdot 6^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 6$
$a_1 = -3$

2) Common Ratio: $r = 5$
$a_8 = -312500$
Explicit: $a_n = -4 \cdot 5^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 5$
$a_1 = -4$

3) Common Ratio: $r = -5$
First Five Terms: $-4,\ 20,\ -100,\ 500,\ -2500$
Recursive: $a_n = a_{n-1} \cdot -5$
$a_1 = -4$

4) Common Ratio: $r = -5$
First Five Terms: $1,\ -5,\ 25,\ -125,\ 625$
Explicit: $a_n = (-5)^{n-1}$

5) $a_n = -4 \cdot 6^{n-1}$

6) $a_n = -3 \cdot 6^{n-1}$

7) Common Ratio: $r = 5$
Explicit: $a_n = -4 \cdot 5^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 5$
$a_1 = -4$

8) Common Ratio: $r = -6$
Explicit: $a_n = -(-6)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -6$
$a_1 = -1$

9) Common Ratio: $r = -4$
Explicit: $a_n = (-4)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -4$
$a_1 = 1$

10) Common Ratio: $r = 4$
Explicit: $a_n = 4^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 4$
$a_1 = 1$