Pre-Calculus 12 Name:_____

Geometric Sequences and Series

Block:____ Mark Out Of 29_____

Given a term in a geometric sequence and the common ratio find the term named in the problem.

1) $a_1 = 4,\ r = 2$
Find a_{10}

Find the common ratio, the term named in the problem, and the explicit formula.

2) 3, 12, 48, 192, ...
Find a_{10}

Evaluate each infinite geometric series described.

3) $2 + \frac{2}{3} + \frac{2}{9} + \frac{2}{27}...$

Evaluate each geometric series described.

4) $a_1 = -2,\ r = 3,\ n = 8$

5) $a_1 = -3,\ a_n = -234375,\ r = 5$

Evaluate each infinite geometric series described.

6) $\sum_{m=1}^{\infty} -3 \cdot \left(\frac{1}{2}\right)^{m-1}$

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

7) $a_n = -4^{n-1}$
Find a_9

Given two terms in a geometric sequence find the common ratio and the term named in the problem.

8) $a_3 = 12$ and $a_6 = 96$
Find a_{10}

Evaluate each geometric series described.

9) $\sum_{m=1}^{8} 2 \cdot 5^{m-1}$

Given the first term and the common ratio of a geometric sequence find the term named in the problem.

10) $a_1 = 3,\ r = -3$
Find a_{11}

Evaluate each geometric series described.

11) $-1 + 4 - 16 + 64...,\ n = 9$

12) $4 - 20 + 100 - 500...,\ n = 6$

Given the recursive formula for a geometric sequence find the common ratio and the term named in the problem.

13) $a_n = a_{n-1} \cdot -5$
$a_1 = 1$
Find a_9

Evaluate each geometric series described.

14) $a_1 = 2,\ a_8 = 256,\ r = 2$