Algebra 2 Name_____

Sequence 4 WS : Geometric Sequences

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

1) 3, 12, 48, 192, ...

2) 2, 8, 32, 128, ...

3) 4, 20, 100, 500, ...

4) 3, 15, 75, 375, ...

5) 3, −15, 75, −375, ...

6) 3, −12, 48, −192, ...

Find the explicit formula.

7) −1, −4, −16, −64, ...

8) 4, 24, 144, 864, ...

9) −3, 6, −12, 24, ...

10) −4, −16, −64, −256, ...

11) −2, −10, −50, −250, ...

12) 3, −15, 75, −375, ...

13) 1, 5, 25, 125, ...

14) 1, −6, 36, −216, ...

Given the explicit formula for a geometric sequence find the first five terms.

15) $a_n = 2 \cdot (-3)^{n-1}$

16) $a_n = -4^{n-1}$

17) $a_n = 3^{n-1}$

18) $a_n = -2 \cdot 5^{n-1}$

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

20) $a_n = -4 \cdot (-2)^{n-1}$

Find the term named in the problem and the explicit formula.

21) 2, 8, 32, 128, ...
Find a_{10}

22) −2, −8, −32, −128, ...
Find a_{10}

23) 1, 3, 9, 27, ...
Find a_{12}

24) 4, 12, 36, 108, ...
Find a_9

25) −3, 6, −12, 24, ...
Find a_{10}

26) −4, −16, −64, −256, ...
Find a_9

27) −2, −6, −18, −54, ...
Find a_{12}

28) −1, −3, −9, −27, ...
Find a_{11}