Unit 7: Representations of Exponential Relations

PRE-TEST

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

1. 8, 7, 6, 5, ...	2. 1, 2, 4, 8, ...

Find the recursive formula for each of the following:

3. $4, -12, 36, -108, \ldots$	4. $-2, -6, -18, -54, \ldots$

Find the explicit formula for each of the following:

5. $-1, 6, -36, 216, \ldots$	6. $3, 6, 12, 24, \ldots$

Given the following geometric sequences answer each of the following:

7. $-1, -2, -4, -8, \ldots$

A. Find the next three terms	B. Find a_8	C. Find a_{10}

8. $-4, -12, -36, -108, \ldots$

A. Find the next three terms	B. Find a_8	C. Find a_{12}

Find the missing term or terms in each geometric sequence.

9. $\ldots, -2, \_\_\_, -72, \ldots$	10. $\ldots, 2, \_\_\_, 18, \ldots$
11. $\ldots, -1, \_\_\_, \_\_\_, -8, \ldots$	12. $\ldots, -4, \_\_\_, \_\_\_, -32, \ldots$
13. $\ldots, 1, \_\_\_, \_\_\_, \_\_\_, 81, \ldots$	14. $\ldots, 1, \_\_\_, \_\_\_, \_\_\_, 16, \ldots$
15. $\ldots, -3, \_\_\_, \_\_\_, \_\_\_, \_\_\_, -96, \ldots$	16. $\ldots, 3, \_\_\_, \_\_\_, \_\_\_, \_\_\_, 23328, \ldots$
17. $\ldots, -1, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_, -15625, \ldots$	18. $\ldots, -4, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_, -2916, \ldots$

Evaluate each geometric series described.

19. $2 - 10 + 50 - 250 \ldots, n = 6$	20. $-3 - 15 - 75 - 375 \ldots, n = 6$
21. $-2 - 6 - 18 - 54 \ldots, n = 6$	22. $2 - 12 + 72 - 432 \ldots, n = 8$
23. $\sum_{n=1}^{9}(5^{n-1})$	24. $\sum_{n=1}^{8}(3 \cdot 5^{n-1})$
25. $a_1 = 1, r = 5, n = 7$	26. $a_1 = -4, r = -2, n = 8$