

Chapter 8 Review WS1

Hour _____

For each sequence, state if it is arithmetic, geometric, or neither.

1) 1, 3, 9, 27, 81, ...

2) 2, 4, 12, 48, 240, ...

Given the explicit formula for an arithmetic sequence find the first five terms.

3) $a_n = -23 + 3n$

Find the explicit formula.

4) 7, 17, 27, 37, ...

Given the first term and the common difference of an arithmetic sequence find the explicit formula.

5) $a_1 = 14, d = -5$

Given a term in an arithmetic sequence and the common difference find the explicit formula.

6) $a_{12} = -90, d = -5$

Given two terms in an arithmetic sequence find the explicit formula.

7) $a_{17} = -120$ and $a_{31} = -260$

8) $a_{18} = 1684$ and $a_{34} = 3284$

Evaluate each arithmetic series described.

9) $\sum_{n=1}^{10} (2n + 8)$

10) $\sum_{k=1}^5 (3 - 9k)$

11) $a_1 = 22, a_n = 193, n = 20$

12) $a_1 = 3, a_n = 75, n = 13$

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

13) 4, 12, 36, 108, ...
Find a_{10}

14) 4, -8, 16, -32, ...
Find a_{12}

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

15) $a_4 = -192, r = 4$
Find a_{10}

16) $a_6 = 972, r = -3$
Find a_{11}

Given two terms in a geometric sequence find the term named in the problem and the explicit formula.

17) $a_5 = -48$ and $a_6 = -96$

Find a_{12}

Evaluate each geometric series described.

18) $\sum_{i=1}^9 (-2)^{i-1}$

19) $a_1 = 4, r = 3, n = 8$

Given the recursive formula for an arithmetic sequence find the first five terms.

20) $a_n = a_{n-1} + 10$
 $a_1 = -12$

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

21) $a_n = a_{n-1} \cdot -2$
 $a_1 = 2$

Find the recursive formula. Remember to also state the first term!

22) $-15, -19, -23, -27, \dots$

23) $3, -9, 27, -81, \dots$

Given the explicit formula for an arithmetic sequence find the recursive formula. Be sure to state the first term also.

24) $a_n = 133 - 100n$

Given the explicit formula for a geometric sequence find the recursive formula. State the first term.

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

Given the recursive formula for an arithmetic sequence find the term named in the problem and the explicit formula.

26) $a_n = a_{n-1} + 9$
 $a_1 = 29$
Find a_{27}

27) $a_n = a_{n-1} + 4$
 $a_1 = -35$
Find a_{31}

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

28) $a_n = a_{n-1} \cdot 3$
 $a_1 = 2$
Find a_{11}

29) $a_n = a_{n-1} \cdot -3$
 $a_1 = -4$
Find a_{11}