

Algebra 1
4.6, 6.6 & 6.7 Review

Name _____

Determine whether the sequence is arithmetic, geometric, or neither. Explain.

1. 2, 4, 6, 8, ...	2. 5, -10, 20, -40, ...
3. 4, 9, 16, 25, ...	4. -64, -32, -16, -8, ...

5. The first term of an arithmetic sequence is 24 and the common difference is -9. Write the first four terms of the sequence.

_____ , _____ , _____ , _____ , ...

Write the recursive rule for the sequence.

6.	<table border="1"> <tr> <td>Position, n</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>Term, a_n</td> <td>25</td> <td>10</td> <td>-5</td> </tr> </table>	Position, n	1	2	3	Term, a_n	25	10	-5	7.	<table border="1"> <tr> <td>Position, n</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Term, a_n</td> <td>-10</td> <td>-6</td> <td>-2</td> <td>2</td> </tr> </table>	Position, n	1	2	3	4	Term, a_n	-10	-6	-2	2
Position, n	1	2	3																		
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Term, a_n	-10	-6	-2	2																	

8. The first two terms of a sequence are $a_1 = 4$ and $a_2 = -2$.

a. Find a_3 if the sequence is arithmetic. b. Find a_3 if the sequence is geometric.

Write the first five terms of the recursive sequence.

9. $a_1 = 18$; $a_n = \left(\frac{2}{3}\right) \cdot a_{n-1}$	10. $a_1 = 18$; $a_n = a_{n-1} + 5$
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Write the recursive rule for the explicit rule.

11. $a_n = 5n + 10$	12. $a_n = 4(3)^{n-1}$
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Write the explicit rule for the recursive rule. Then find the value of the 14th term.

13. $a_1 = -5 ; a_n = 2 \cdot a_{n-1}$	14. $a_1 = 3 ; a_n = a_{n-1} - 6$
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15. Miranda arranges some rows of dominoes so that after she knocks over the first one, each domino knocks over 2 more dominoes when it falls.

a. Write an explicit function for the given sequence.

b. How many dominoes are in the 24th row?

16. Write a recursive rule and an explicit rule for the sequence.

The first term of a sequence is 81. Each term of the sequence is one-third the preceding term.

Explicit rule: _____ Recursive rule: _____