Name _____ Date _____

6.6 Practice B

In Exercises 1 and 2, determine whether the recursive rule represents an *arithmetic sequence* or *geometric sequence*.

1. $a_1 = 5;\ a_n = 12a_{n-1}$

2. $a_1 = 6;\ a_n = a_{n-1} - 3$

In Exercises 3–6, write the first six terms of the sequence. Then graph the sequence.

3. $a_1 = 10;\ a_n = a_{n-1} - 7$

4. $a_1 = 36;\ a_n = -1.5a_{n-1}$

5. $a_1 = 120;\ a_n = \frac{1}{5}a_{n-1}$

6. $a_1 = -6;\ a_n = -3a_{n-1}$

In Exercises 7 and 8, write a recursive rule for the sequence.

7.

n	1	2	3	4
a_n	23	13	3	−7

8.

n	1	2	3	4
a_n	256	128	64	32

In Exercises 9 and 10, write an explicit rule for the recursive rule.

9. $a_1 = 8;\ a_n = -9a_{n-1}$

10. $a_1 = 5;\ a_n = a_{n-1} + 18$

In Exercises 11 and 12, write a recursive rule for the explicit rule.

11. $a_n = 1.2n + 2$

12. $a_n = -76\left(\frac{3}{2}\right)^{n-1}$

In Exercises 13 and 14, graph the first four terms of the sequence with the given description. Write a recursive rule and an explicit rule for the sequence.

13. The first term of the sequence is -2. Each term of the sequence is -5 times the preceding term.

14. The first term of the sequence is 23. Each term of the sequence is 9 less than the preceding term.

In Exercises 15 and 16, write a recursive rule for the sequence. Then write the next two terms of the sequence.

15. $4, -4, 0, -4, -4, \ldots$

16. $100, 20, 5, 4, \frac{5}{4}, \ldots$

17. Write the first five terms of the sequence $a_1 = 3;\ a_n = -a_{n-1} + 5$. Determine whether the sequence is *arithmetic*, *geometric*, *recursive*, or *none of these*. Explain your reasoning.