Name____ Date__________

6.6 Practice A

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

1. $a_1 = 3;\ a_n = a_{n-1} + 4$

2. $a_1 = 3;\ a_n = 9a_{n-1}$

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

3. $a_1 = 0;\ a_n = a_{n-1} + 3$

4. $a_1 = 18;\ a_n = a_{n-1} - 8$

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

6. $a_1 = 4;\ a_n = 2.5a_{n-1}$

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

7.

n	1	2	3	4
a_n	4	28	196	1372

8.

n	1	2	3	4
a_n	6	11	16	21

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

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

10. $a_1 = 14;\ a_n = -2a_{n-1}$

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

11. $a_n = 5(2)^{n-1}$

12. $a_n = -7n + 3$

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 8. Each term of the sequence is 12 more than the preceding term.

14. The first term of the sequence is 81. Each term of the sequence is one-third 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. 3, 5, 8, 13, 21, …

16. 24, 20, 4, 16, –12, …

17. Write the first five terms of the sequence $a_1 = 4;\ a_n = \frac{1}{2}a_{n-1} + 6$. Determine whether the sequence is *arithmetic*, *geometric*, or *neither*. Explain your reasoning.