

7.5**Practice A**

In Exercises 1–6, write the first six terms of the sequence.

1. $a_1 = 1$

$a_n = a_{n-1} + 5$

2. $a_1 = 1$

$a_n = a_{n-1} - 4$

3. $f(0) = 3$

$f(n) = 4f(n-1)$

4. $f(0) = 12$

$f(n) = \frac{1}{3}f(n-1)$

5. $a_1 = 1$

$a_n = (a_{n-1})^2 + 2$

6. $a_1 = 2$

$a_n = \frac{1}{2}(a_{n-1})^2$

In Exercises 7–14, write a recursive rule for the sequence.

7. 32, 24, 16, 8, 0, ...

8. -47, -35, -23, -11, 1, ...

9. 2, 6, 18, 54, 162, ...

10. 5, -10, 20, -40, 80, ...

11. 21, 7, $\frac{7}{3}$, $\frac{7}{9}$, $\frac{7}{27}$, ...

12. 1, 7, 13, 19, 25, ...

13. 2, 3, 5, 8, 13, ...

14. 2, 3, 6, 18, 108, ...

In Exercises 15–20, write a recursive rule for the sequence.

15. $a_n = 5 + 2n$

16. $a_n = -4 - 3n$

17. $a_n = 15 - 13n$

18. $a_n = 8(10)^{n-1}$

19. $a_n = -2(7)^{n-1}$

20. $a_n = 1.8 - 0.8n$

21. The basic fee for a sailboat rental is \$75. There is an additional \$20 fee for each additional hour over 2 hours. The explicit rule $a_n = 75 + 20n$ gives the amount of the rental for n hours over 2 hours. Write a recursive rule for the amount of the rental for n hours over 2 hours.

In Exercises 22–25, write an explicit rule for the sequence.

22. $a_1 = 5, a_n = a_{n-1} - 3$

23. $a_1 = 14, a_n = a_{n-1} + 5$

24. $a_1 = -3, a_n = 2a_{n-1}$

25. $a_1 = 20, a_n = \frac{1}{2}a_{n-1}$