

7.1**Practice A**

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

1. $a_n = n - 3$

2. $a_n = 4 - n$

3. $a_n = n^3$

4. $a_n = n^2 - 5$

5. $a_n = 2^{2n}$

6. $a_n = -n^2 + 1$

In Exercises 7–14, describe the pattern, write the next term, and write a rule for the n th term of the sequence.

7. 1, 4, 7, 10, ...

8. 1, 3, 9, 27, ...

9. 1.5, 3, 4.5, 6, ...

10. 4.2, 5.8, 7.4, 9, ...

11. 4.7, 3.4, 2.1, 0.8, ...

12. -5, 10, -15, 20, ...

13. $\frac{1}{6}, \frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \dots$

14. $\frac{3}{2}, \frac{3}{4}, \frac{3}{6}, \frac{3}{8}, \dots$

15. You agree to work for your uncle. You earn \$10 the first day, \$20 the second day, \$40 the third day, and \$80 the fourth day. Write a rule for the number of dollars that you will earn on the n th day. Then graph the sequence.

In Exercises 16–21, write the series using summation.

16. $4 + 8 + 12 + 16 + 20$

17. $3 + 9 + 15 + 21 + 27$

18. $1 + 7 + 13 + 19 + \dots$

19. $-1 + 1 + 3 + 5 + \dots$

20. $\frac{1}{5} + \frac{1}{25} + \frac{1}{125} + \frac{1}{625} + \dots$

21. $\frac{1}{7} + \frac{2}{8} + \frac{3}{9} + \frac{4}{10} + \dots$

In Exercises 22–27, find the sum.

22. $\sum_{i=1}^4 3i$

23. $\sum_{i=1}^5 6i$

24. $\sum_{n=0}^5 n^2$

25. $\sum_{n=2}^7 (3n + 2)$

26. $\sum_{k=1}^6 (k^2 - 3)$

27. $\sum_{i=3}^7 \frac{5}{i}$

28. You are building a brick garden wall six rows high. The bottom row has 25 bricks. Each of the other rows has three fewer bricks than the one below it. How many bricks will you need to build the garden wall? Justify your answer.