

**9-2****Practice**

Form G

**Arithmetic Sequences**

**Determine whether each sequence is arithmetic. If so, identify the common difference.**

1. 2, 3, 5, 8, ...

3. 0.9, 0.5, 0.1, -0.3, ...

5. 14, -15, -44, -73, ...

7. -34, -28, -22, -16, ...

9. 127, 140, 153, 166, ...

**Find the 43rd term of each sequence.**

11. 12, 14, 16, 18, ...

13. 19.5, 19.9, 20.3, 20.7, ...

15. 2, 13, 24, 35, ...

17. 1.3, 1.4, 1.5, 1.6, ...

19. 45, 48, 51, 54, ...

**Find the missing term of each arithmetic sequence.**

21. ... 23,  $\quad$ , 49, ...

23. ... 29,  $\quad$ , 33, ...

25. ... -45,  $\quad$ , -39, ...

27. -2,  $\quad$ , 2, ...

29. -34,  $\quad$ , 77, ...

31. -2,  $\quad$ , 456, ...

**33.** A teacher donates the same amount of money each year to help protect the rainforest. At the end of the second year, she has donated enough money to protect 8 acres. At the end of the third year, she has donated enough money to protect 12 acres. How many acres will the teacher's donations protect at the end of the tenth year?

**9-2****Practice** (continued)

Form G

## Arithmetic Sequences

Find the arithmetic mean  $a_n$  of the given terms.

35.  $a_{n-1} = 5$ ,  $a_{n+1} = 11$

37.  $a_{n-1} = -8$ ,  $a_{n+1} = -9$

39.  $a_{n-1} = y - z$ ,  $a_{n+1} = y$

41. **Open-Ended** Write an arithmetic sequence of at least five terms with a positive common difference.

43. **Reasoning** Explain why 84 is the missing term in the sequence 89, 86.5, \_\_\_\_, 81.5, ....

45. You are making an arrangement of cubes in concentric rings for a sculpture. The number of cubes in each ring follows the pattern below.

$$1, 9, 17, 25, 33, \dots$$

- Is this an arithmetic sequence? Explain.
- What are the next three terms?
- If the sequence continues to the 100th term in this pattern, what will that term be?