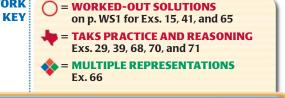
12.2 EXERCISES

HOMEWORK



SKILL PRACTICE

- 1. VOCABULARY Copy and complete: The constant difference between consecutive terms of an arithmetic sequence is called the ? .
- Explain the difference between an arithmetic sequence and an 2. WRITING arithmetic series.

IDENTIFYING ARITHMETIC SEQUENCES Tell whether the sequence is arithmetic. Explain why or why not.

EXAMPLE 1 on p. 802 for Exs. 3-11

| 3. 1, -2, -5, -8, -11, | 4. 16, 14, 11, 6, 3, | 5. 5, 14, 23, 32, 41, |
|---|--|---|
| 6. -10, -7, -5, -2, 0, | 7. 0.5, 1, 1.5, 2, 2.5, | 8. 20, 10, 5, 2.5, 1.25, |
| 9. $\frac{7}{4}, \frac{5}{4}, \frac{3}{4}, -\frac{3}{4}, -\frac{5}{4}, \ldots$ | 10. $\frac{1}{7}, \frac{2}{7}, \frac{4}{7}, \frac{8}{7}, \frac{16}{7}, \dots$ | 11. $-\frac{5}{2}$, -1 , $\frac{1}{2}$, 2, $\frac{7}{2}$, |

EXAMPLE 2 on p. 803

for Exs. 12-22

EXAMPLE 3

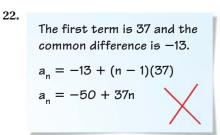
on p. 803 for Exs. 23-29

| WRITING RULES Write a rule for the <i>n</i> th term of the arithmetic sequence. Then find a_{20} . | | | | |
|---|--|-------------------------------------|--|--|
| 12. 1, 4, 7, 10, 13, | 13. 5, 11, 17, 23, 29, | 14. 8, 21, 34, 47, 60, | | |
| 15. -3, -1, 1, 3, 5, | 16. 6, 2, -2, -6, -10, | 17. 25, 14, 3, -8, -19, | | |
| 18. $0, \frac{2}{3}, \frac{4}{3}, 2, \frac{8}{3}, \ldots$ | 19. 2, $\frac{5}{3}$, $\frac{4}{3}$, 1, $\frac{2}{3}$, | 20. 1.5, 3.6, 5.7, 7.8, 9.9, | | |

ERROR ANALYSIS Describe and correct the error in writing the rule for the *n*th term of the arithmetic sequence $37, 24, 11, -2, -15, \ldots$

21.

Use $a_1 = 37$ and d = -13. $a_n = a_1 + nd$ $a_n = 37 + n(-13)$ a_n = 37 - 13n



WRITING RULES Write a rule for the *n*th term of the arithmetic sequence. Then graph the first six terms of the sequence.

| 23. $a_{16} = 52, d = 5$ | 24. $a_6 = -16, d = 9$ | 25. $a_4 = 96$, $d = -14$ |
|----------------------------------|---|---|
| 26. $a_{12} = -3, d = -7$ | 27. $a_{10} = 30, d = \frac{7}{2}$ | 28. $a_{11} = \frac{1}{2}, d = -\frac{1}{2}$ |

29. taks reasoning For a certain arithmetic sequence, $a_{30} = 57$ and d = 4. What is a rule for the *n*th term of the sequence?

(A) $a_n = -63 - 4n$ **B** $a_n = -59 - 4n$ **D** $a_n = -59 + 4n$ (c) $a_n = -63 + 4n$