9-3 Exercises

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Homework Help

GUIDED PRACTICE

1. **Vocabulary** When trying to find the nth term of an arithmetic sequence you must first know the _____?_____. (*common difference* or *sequence*)

SEE EXAMPLE 1

Multi-Step Determine whether each sequence appears to be an arithmetic sequence. If so, find the common difference and the next three terms.

2. 2, 8, 14, 20, …
3. 2.1, 1.4, 0.7, 0, …
4. 1, 1, 2, 3, …
5. 0.1, 0.3, 0.9, 2.7, …

SEE EXAMPLE 2

Find the indicated term of each arithmetic sequence.

6. 21st term: 3, 8, 13, 18, …
7. 18th term: $a_1 = -2$; $d = -3$

SEE EXAMPLE 3

8. **Shipping** To package and ship an item, it costs \$5.75 for the first pound and \$0.75 for each additional pound. What is the cost of shipping a 12-pound package?

PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
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13–14	2
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Online Extra Practice

Multi-Step Determine whether each sequence appears to be an arithmetic sequence. If so, find the common difference and the next three terms.

9. $-1, 10, -100, 1{,}100, \ldots$
10. $0, -2, -4, -6, \ldots$
11. $-22, -31, -40, -49, \ldots$
12. 0.2, 0.5, 0.9, 1.1, …

Find the indicated term of each arithmetic sequence.

13. 31st term: 1.40, 1.55, 1.70, …
14. 50th term: $a_1 = 2.2$; $d = 1.1$
15. **Travel** Rachel signed up for a frequent-flier program. She receives 4300 frequent-flier miles for her first round trip and 1300 frequent-flier miles for each additional round-trip. How many frequent-flier miles will she have after 5 round-trips?

Find the common difference for each arithmetic sequence.

16. 0, 6, 12, 18, …
17. $\frac{1}{2}, \frac{3}{4}, 1, \frac{5}{4}, \ldots$
18. 107, 105, 103, 101, …
19. 7.9, 5.7, 3.5, 1.3, …
20. $\frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \ldots$
21. 4.25, 4.32, 4.39, 4.46, …

Find the next four terms in each arithmetic sequence.

22. $-4, -7, -10, -13, \ldots$
23. $\frac{1}{8}, 0, -\frac{1}{8}, -\frac{1}{4}, \ldots$
24. 505, 512, 519, 526, …
25. 1.8, 1.3, 0.8, 0.3, …
26. $\frac{2}{3}, \frac{4}{3}, 2, \frac{8}{3}, \ldots$
27. $-1.1, -0.9, -0.7, -0.5$

Find the given term of each arithmetic sequence.

28. 5, 10, 15, 20, …; 17th term
29. 121, 110, 99, 88, …; 10th term
30. $-2, -5, -8, -11, \ldots$; 41st term
31. $-30, -22, -14, -6, \ldots$; 20th term

H.O.T. 32. **Critical Thinking** Is the sequence $5a - 1, 3a - 1, a - 1, -a - 1, \ldots$ arithmetic? If not, explain why not. If so, find the common difference and the next three terms.