4-7 Skills Practice

Arithmetic Sequences

Determine whether each sequence is an arithmetic sequence. If it is, state the common difference.

1. 4, 7, 9, 12, ...

2. 15, 13, 11, 9, ...

3. 7, 10, 13, 16, ...

4. −6, −5, −3, −1, ...

5. −5, −3, −1, 1, ...

6. −9, −12, −15, −18, ...

Find the next three terms of each arithmetic sequence.

7. 3, 7, 11, 15, ...

8. 22, 20, 18, 16, ...

9. −13, −11, −9, −7, ...

10. −2, −5, −8, −11, ...

11. 19, 24, 29, 34, ...

12. 16, 7, −2, −11, ...

Find the nth term of each arithmetic sequence described.

13. $a_1 = 6, d = 3, n = 12$

14. $a_1 = -2, d = 5, n = 11$

15. $a_1 = 10, d = -3, n = 15$

16. $a_1 = -3, d = -3, n = 22$

17. $a_1 = 24, d = 8, n = 25$

18. $a_1 = 8, d = -6, n = 14$

19. 8, 13, 18, 23, ... for $n = 17$

20. −10, −3, 4, 11, ... for $n = 12$

21. 12, 10, 8, 6, ... for $n = 16$

22. 12, 7, 2, −3, ... for $n = 25$

Write an equation for the nth term of each arithmetic sequence. Then graph the first five terms of the sequence.

23. 7, 13, 19, 25, ...

24. 30, 26, 22, 18, ...

25. −7, −4, −1, 2, ...