

Practice

Form G

Arithmetic Sequences

Describe the pattern in each sequence. Then find the next two terms of the sequence.

1. 3, 6, 12, 24, ...

2. 9, 15, 21, 27, ...

3. 1.5, 2.25, 3, 3.75, ...

4. 9.9, 8.8, 7.7, 6.6, ...

5. 1.5, 4.5, 13.5, 40.5, ...

6. 40, 20, 10, 5, ...

7. 7, 11, 15, 19, ...

8. 67, 60, 53, 46, ...

9. 12, 7, 2, -3, ...

Tell whether the sequence is arithmetic. If it is, identify the common difference.

10. 4, 8, 12, 16, ...

11. -11, 5, 0, 6, ...

12. 4, 8, 16, 32, ...

13. 12, 23, 34, 45, ...

14. 2, 4, 7, 9, ...

15. 1, 3, 9, 27, ...

16. -16, -11, -6, -1, ...

17. -9, -4.5, -0.5, 4, ...

18. -7, -14, -21, -28, ...

19. $0, \frac{1}{3}, \frac{2}{3}, 1, \dots$

20. 5, 10, 15, 20, ...

21. 2, 20, 200, 2000, ...

22. You have a gift card for a coffee shop worth \$90. Each day you use the card to get a coffee for \$4.10. Write an explicit formula to represent the amount of money left on the card as an arithmetic sequence. What is the value of the card after buying 8 coffees?

23. You start a savings account with \$200 and save \$30 each month. Write an explicit formula to represent the amount of money you invest into your savings account as an arithmetic sequence. How much money will you have invested after 12 months?

Practice (continued)

Form G

Arithmetic Sequences

Find the third, fifth, and tenth terms of the sequence described by each explicit formula.

24. $A(n) = 4 + (n + 1)(-5)$

25. $A(n) = 2 + (n + 1)(6)$

26. $A(n) = -5.5 + (n - 1)(2)$

27. $A(n) = 3 + (n - 1)(1.5)$

28. $A(n) = -2 + (n - 1)(5)$

29. $A(n) = 1.4 + (n - 1)(3)$

30. $A(n) = 9 + (n - 1)(8)$

31. $A(n) = 2.5 + (n - 1)(2.5)$

Tell whether each sequence is arithmetic. Justify your answer. If the sequence is arithmetic, write a recursive and an explicit formula to represent it.

32. 1.6, 0.8, 0, -0.8, ...

33. 5, 10, 20, 40, ...

34. 5, 13, 21, 29, ...

35. 51, 47, 43, 39, ...

36. 0.2, 0.5, 0.8, 1.1, ...

37. 7, 14, 28, 56, ...

38. **Open-Ended** Write an explicit formula for the arithmetic sequence whose common difference is -2.5 .

39. **Error Analysis** Your friend writes $A(8) = 3 + (8)(5)$ as an explicit formula for finding the eighth term of the arithmetic sequence 3, 8, 13, 18, ... Describe and correct your friend's error.

40. The local traffic update is given on a radio channel every 12 minutes from 4:00 P.M. to 6:30 P.M. You turn the radio on at 4:16 P.M. How long will you wait for the local traffic update?