4-7 Practice

Form G

Sequences and Functions

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. $0, \dfrac{1}{3}, \dfrac{2}{3}, 1, ...$

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 a rule 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 a rule 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?

4-7

Practice (continued)

Sequences and Functions

Form G

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

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 function rule to represent it.

32. $1.6, 0.8, 0, -0.8, \ldots$

33. $5, 10, 20, 40, \ldots$

34. $5, 13, 21, 29, \ldots$

35. $51, 47, 43, 39, \ldots$

36. $0.2, 0.5, 0.8, 1.1, \ldots$

37. $7, 14, 28, 56, \ldots$

38. Open-Ended Write an arithmetic sequence whose common difference is -2.5.

39. Error Analysis Your friend writes $A(8) = 3 + (8)(5)$ as a rule for finding the eighth term of the arithmetic sequence $3, 8, 13, 18, \ldots$ 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?