Arithmetic sequences

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. Which of the following is the explicit function rule for: 9, 6, 3, 0, ...?

    a. $a_n = -3n + 13$ c. $a_n = -4n + 13$

    b. $a_n = -4n + 12$ d. $a_n = -3n + 12$

_____ 2. Which of the following is the explicit function rule for: −3, 0, 3, 6, ...?

    a. $a_n = 3n - 6$ c. $a_n = 4n - 5$

    b. $a_n = 3n - 5$ d. $a_n = 4n - 6$

_____ 3. Which of the following is the explicit function rule for: 5, 4, 3, 2, ...?
What is the nth term when $n = 11$?

    a. $a_n = -1n + 7; -4$ e. $a_n = 0n + 6; -5$

    b. $a_n = 0n + 6; 6$ f. $a_n = -1n + 6; -5$

    c. $a_n = 0n + 7; -4$ g. $a_n = -1n + 7; 6$

    d. $a_n = -1n + 6; 7$ h. $a_n = 0n + 7; 7$

_____ 4. Which of the following is the explicit function rule for: −5, −8, −11, −14, ...?
What is the nth term when $n = 10$?

    a. $a_n = -3n - 3; -22$ e. $a_n = -2n - 2; -22$

    b. $a_n = -2n - 3; -23$ f. $a_n = -2n - 3; -33$

    c. $a_n = -3n - 2; -23$ g. $a_n = -2n - 2; -32$

    d. $a_n = -3n - 2; -32$ h. $a_n = -3n - 3; -33$

Numeric Response

5. Find the nth term for the following sequence when $n = 26$:
   $-1, 2, 5, 8, ...$

6. Find the common difference for the following sequence:
   $1, 10, 19, 28, ...$

7. Find the nth term for the following sequence when $n = 29$:
   $5, 4.5, 4, 3.5, ...$

8. Find the common difference for the following sequence:
   $7, 12.2, 17.4, 22.6, ...$

9. Find the nth term for the following sequence when $n = 20$:
   $-5, -8, -11, -14, ...$

10. Find the common difference for the following sequence:
    $3, 11, 19, 27, ...$

11. Find the nth term for the following sequence when $n = 23$:
    $5, -1, -7, -13, ...$

12. Find the common difference for the following sequence:
    $4, 7.8, 11.6, 15.4, ...$

Arithmetic sequences
Answer Section

MULTIPLE CHOICE

    1. ANS: D   PTS: 1
    2. ANS: A   PTS: 1
    3. ANS: F   PTS: 1
    4. ANS: D   PTS: 1

NUMERIC RESPONSE

    5. ANS: 74

      PTS: 1
    6. ANS: 9

      PTS: 1
    7. ANS: −9

      PTS: 1
    8. ANS: 5.2

      PTS: 1
    9. ANS: −62

      PTS: 1
  10. ANS: 8

      PTS: 1
  11. ANS: −127

      PTS: 1
  12. ANS: 3.8

      PTS: 1