ID: 1

Name_____

Arithmetic Sequence - Finding Explicit & Recursive Formula

Find the explicit formula and the recursive formula.

1) 25, 20, 15, 10, ...

2) 37, 27, 17, 7, ...

3) −32, −2, 28, 58, ...

4) 0, 4, 8, 12, ...

Given two terms in an arithmetic sequence find the explicit formula and the recursive formula.

5) $a_{16} = -1537$ and $a_{31} = -3037$

6) $a_{15} = -1424$ and $a_{31} = -3024$

7) $a_{16} = 163$ and $a_{31} = 313$

8) $a_{16} = -132$ and $a_{32} = -260$

Given the first term and the common difference of an arithmetic sequence find the explicit formula and the recursive formula.

9) $a_1 = 8,\ d = -10$

10) $a_1 = -5,\ d = -100$

11) $a_1 = -17,\ d = -20$

12) $a_1 = 32,\ d = 2$

Given the second term and the common difference of an arithmetic sequence find the explicit formula and the recursive formula.

13) $a_2 = 71,\ d = 100$

14) $a_2 = 49,\ d = 9$

15) $a_2 = 29,\ d = 2$

16) $a_2 = 8,\ d = -7$

Given a term in an arithmetic sequence and the common difference find the explicit formula and the recursive formula.

17) $a_{37} = 323,\ d = 8$

18) $a_{31} = -897,\ d = -30$

19) $a_{23} = 100,\ d = 5$

20) $a_{38} = 1088,\ d = 30$

Answers to Arithmetic Sequence - Finding Explicit & Recursive Formula (ID: 1)

1) Explicit: $a_n = 30 - 5n$
Recursive: $a_n = a_{n-1} - 5$
$a_1 = 25$

2) Explicit: $a_n = 47 - 10n$
Recursive: $a_n = a_{n-1} - 10$
$a_1 = 37$

3) Explicit: $a_n = -62 + 30n$
Recursive: $a_n = a_{n-1} + 30$
$a_1 = -32$

4) Explicit: $a_n = -4 + 4n$
Recursive: $a_n = a_{n-1} + 4$
$a_1 = 0$

5) Explicit: $a_n = 63 - 100n$
Recursive: $a_n = a_{n-1} - 100$
$a_1 = -37$

6) Explicit: $a_n = 76 - 100n$
Recursive: $a_n = a_{n-1} - 100$
$a_1 = -24$

7) Explicit: $a_n = 3 + 10n$
Recursive: $a_n = a_{n-1} + 10$
$a_1 = 13$

8) Explicit: $a_n = -4 - 8n$
Recursive: $a_n = a_{n-1} - 8$
$a_1 = -12$

9) Explicit: $a_n = 18 - 10n$
Recursive: $a_n = a_{n-1} - 10$
$a_1 = 8$

10) Explicit: $a_n = 95 - 100n$
Recursive: $a_n = a_{n-1} - 100$
$a_1 = -5$

11) Explicit: $a_n = 3 - 20n$
Recursive: $a_n = a_{n-1} - 20$
$a_1 = -17$

12) Explicit: $a_n = 30 + 2n$
Recursive: $a_n = a_{n-1} + 2$
$a_1 = 32$

13) Explicit: $a_n = -129 + 100n$
Recursive: $a_n = a_{n-1} + 100$
$a_1 = -29$

14) Explicit: $a_n = 31 + 9n$
Recursive: $a_n = a_{n-1} + 9$
$a_1 = 40$

15) Explicit: $a_n = 25 + 2n$
Recursive: $a_n = a_{n-1} + 2$
$a_1 = 27$

16) Explicit: $a_n = 22 - 7n$
Recursive: $a_n = a_{n-1} - 7$
$a_1 = 15$

17) Explicit: $a_n = 27 + 8n$
Recursive: $a_n = a_{n-1} + 8$
$a_1 = 35$

18) Explicit: $a_n = 33 - 30n$
Recursive: $a_n = a_{n-1} - 30$
$a_1 = 3$

19) Explicit: $a_n = -15 + 5n$
Recursive: $a_n = a_{n-1} + 5$
$a_1 = -10$

20) Explicit: $a_n = -52 + 30n$
Recursive: $a_n = a_{n-1} + 30$
$a_1 = -22$