Arithmetic Sequences

Name:

Date:

Given the first and the common difference of an arithmetic sequence find the first five terms and the explicit formula.

1) $a_1 = 24, d = 2$

2) $a_1 = -10, d = -5$

3) $a_1 = -38, d = 20$

Given a term in an arithmetic sequence and the common difference find the first five terms and the explicit formula.

4) $a_{38} = -53.2, d = -1.1$

5) $a_{37} = 249, d = 8$

6) $a_{30} = -38, d = 20$

Given a term in an arithmetic sequence and the common difference find the recursive formula and the three terms in the sequence after the last one given.

7) $a_{22} = -44, d = -2$

8) $a_{12} = 30.6, d = 1.8$

9) $a_{18} = 30, d = 2$

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Answers

Given the first and the common difference of an arithmetic sequence find the first five terms and the explicit formula.

1) $a_1 = 24, d = 2$
First five terms: 24,26,28,30,32 Explicit: $a_n = 22 + 2n$

2) $a_1 = -10, d = -5$
First five terms: $-10, -15, -20, -25, -30$ Explicit: $a_n = -5 - 5n$

3) $a_1 = -38, d = 20$
First five terms: $-38, -18, 8, 28, 48$ Explicit: $a_n = -58 + 20n$

Given a term in an arithmetic sequence and the common difference find the first five terms and the explicit formula.

4) $a_{38} = -53.2, d = -1.1$
First five terms: $-12.5, -13.6, -14.7, -15.8, -16.9$ Explicit: $a_n = -11.4 - 1.1n$

5) $a_{37} = 249, d = 8$
First five terms: $-39, -31, -23, -15, -7$ Explicit: $a_n = -47 + 8n$

6) $a_{30} = -38, d = 20$
First five terms: $-618, -598, -578, -558, -538$ Explicit: $a_n = -638 + 20n$

Given a term in an arithmetic sequence and the common difference find the recursive formula and the three terms in the sequence after the last one given.

7) $a_{22} = -44, d = -2$ Next 3 terms: $-46, -48, -50$
$a_n = a_{n-1} - 2 \Rightarrow a_1 = -2$

8) $a_{12} = 30.6, d = 1.8$ Next 3 terms: 32.4,34.2,36
$a_n = a_{n-1} + 1.8 \Rightarrow a_1 = 10.8$

9) $a_{18} = 30, d = 2$ Next 3 terms:32,34,36 $a_2 = a_{18} - 16d =$
$a_n = a_{n-1} + 2 \Rightarrow a_1 = -4$