

Arithmetic Sequences

 Find the next three terms of each arithmetic sequence.

1) 15, 11, 7, 3, -1, ...

2) -21, -14, -7, 0, ...

3) 3, 6, 9, 12, 15, ...

4) 4, 8, 12, 16, 20, ...


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

5) $a_1 = 24, d = 2$

7) $a_1 = 18, d = 10$

6) $a_1 = -15, d = -5$

8) $a_1 = -38, d = -100$


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

9) $a_{36} = -276, d = -7$

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

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

12) $a_{40} = -1,191, d = -30$

 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.

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

15) $a_{18} = 27.4, d = 1.1$

14) $a_{12} = 28.6, d = 1.8$

16) $a_{21} = -1.4, d = 0.6$

Answers**Arithmetic Sequences**

- 1) $-5, -9, -13$
- 2) $7, 14, 21$
- 3) $18, 21, 24$
- 4) $24, 28, 32$
- 5) First Five Terms: $24, 26, 28, 30, 32$, Explicit: $a_n = 2n + 22$
- 6) First Five Terms: $-15, -20, -25, -30, -35$, Explicit: $a_n = -5n - 10$
- 7) First Five Terms: $18, 28, 38, 48, 58$, Explicit: $a_n = 10n + 8$
- 8) First Five Terms: $-38, -138, -238, -338, -438$, Explicit: $a_n = -100n + 62$
- 9) First Five Terms: $-31, -38, -45, -52, -59$, Explicit: $a_n = -7n - 24$
- 10) First Five Terms: $-39, -31, -23, -15, -7$, Explicit: $a_n = 8n - 47$
- 11) First Five Terms: $-12.5, -13.6, -14.7, -15.8, -16.9$, Explicit: $a_n = -1.1n - 11.4$
- 12) First Five Terms: $-21, -51, -81, -111, -141$, Explicit: $a_n = -30n + 9$
- 13) Next 3 terms: $-46, -48, -50$, Recursive: $a_n = a_{n-1} - 2, a_1 = -2$
- 14) Next 3 terms: $30.4, 32.2, 34$, Recursive: $a_n = a_{n-1} + 1.8, a_1 = 8.8$
- 15) Next 3 terms: $28.5, 29.6, 30.7$, Recursive: $a_n = a_{n-1} + 1.1, a_1 = 8.7$
- 16) Next 3 terms: $-0.8, -0.2, 0.4$, Recursive: $a_n = a_{n-1} + 0.6, a_1 = -13.4$