

Determine whether each sequence is an arithmetic sequence. If so, find the common difference and the next three terms.

1. 6, 12, 18, 24, ... d : _____ Next three terms: _____

2. 6, 11, 17, ... d : _____ Next three terms: _____

3. 2, 14, 98, 686, ... d : _____ Next three terms: _____

4. 160, 80, 40, 20, ... d : _____ Next three terms: _____

For problems 1-3, determine the first 4 terms of the sequence.

1.

$$a_1 = 13$$

$$a_n = a_{n-1} + 12$$

2.

$$a_1 = 45$$

$$a_n = a_{n-1} - 10$$

3.

$$a_1 = -4$$

$$a_n = a_{n-1} + 12$$

For problems 4 – 5, create a RECURSIVE and EXPLICIT rule for each sequence.

4. 10, 11, 12, 13, ...

Recursive:

Explicit:

5. -1, 3, 7, 11, ...

Recursive:

Explicit:

6. 14, 25, 36, 47...

Recursive:

Explicit:

9. Two terms of an arithmetic sequence are $a_5 = -18$ and $a_6 = -28$.

a. What is the common difference?

b. What are the first four terms of this sequence?

c. Write the **EXPLICIT** rule for this sequence.

d. Write the **RECURSIVE** rule for this sequence.