

Arithmetic sequence

An *arithmetic sequence* (also known as an *arithmetic progression*) is a sequence of numbers in which the difference between consecutive terms is always the same.

For example, in the arithmetic sequence 1, 5, 9, 13, 17, ..., the difference is always 4. This is called the common difference.

If the first term of the sequence is a and the common difference is d , then the arithmetic sequence can be written as

$$a, a + d, a + 2d, a + 3d, \dots, a + (n - 1)d, \dots$$

which has n^{th} term $a + (n - 1)d$.