

Geometric sequence

A *geometric sequence* (also known as a *geometric progression*) is a sequence of numbers in which the ratio of consecutive terms is always the same.

For example, in the geometric sequence 2, 6, 18, 54, 162, ..., the ratio is always 3. This is called the common ratio.

If the first term of the sequence is a and the common ratio is r , then the geometric sequence can be written as

$$a, ar, ar^2, ar^3, \dots, ar^{n-1}, \dots$$

which has n^{th} term ar^{n-1} .