

Today's Learning Goal(s):

By the end of the class, I will be able to:

- recognize the characteristics of geometric sequences.
- write the general term.

7.2 Geometric Sequences

Date: _____

Geometric Sequence:

A sequence that has a common **ratio** between the terms.

(ie. you multiply by some number to move from one term to the next).

Ex.1 Consider the following sequence: 2, 6, 18, 54, ...

In a geometric sequence, the first term is **a** and the common **ratio** is **r**

\therefore the terms are a, ar, ar^2, ar^3, \dots

often only 3 terms given

The general term is $t_n = ar^{n-1}$

The recursive formula is $t_1 = a, t_n = rt_{n-1}, n \in \mathbf{N}, n > 1$

a) What is the 11th term?

Ex.2 The fifth term of a geometric sequence is 48, and the 13th term is 12288.
Determine the first 4 terms.