

Geometric Sequences

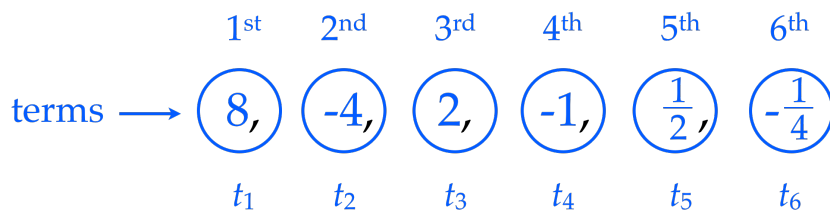
A **Geometric Sequence** is a **sequence** of which the **ratio** of successive **terms** is the same number, r , called the **common ratio**.

2, 6, 18, 54, 162, 486

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8, -4, 2, -1, $\frac{1}{2}$, $-\frac{1}{4}$

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common ratio

$$r = \frac{t_n}{t_{n-1}}$$

Let $n = 3$, find r

The n^{th} term of an **Geometric Sequence**

$$t_n = t_1 \cdot r^{n-1}$$

If $t_1 = 6$, and $r = 3$

Find t_4 and t_7

Find the 6th term of the geometric sequence with $t_3 = 4$ and $t_5 = 16$.

Geometric means are the terms between two nonconsecutive terms of a geometric sequence.

4, 8, 16, 32, 64, 128

The four geometric means between 4 and 128 are 8, 16, 32, and 64.

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Find the three geometric means between 3 and 768