

Example 1

Consider the following geometric sequence:

$$2; 6; 18; 54; \dots$$

- 1.1 Calculate the common ratio(r).
- 1.2 Find the n^{th} term.
- 1.3 Calculate the sum of the first 10 terms (S_{10}).

No	Solutions
1.1	$r = \frac{T_2}{T_1}$ $r = \frac{6}{2}$ $\therefore r = 3$
1.2	$T_n = a \cdot r^{(n-1)}$ $T_n = 2 \cdot 3^{(n-1)}$
1.3	$S_n = \frac{a \cdot (r^n - 1)}{(r - 1)}$ $S_{10} = \frac{2(3^{10} - 1)}{(3 - 1)}$ $S_{10} = 59048$

HOMEWORK:

Consider the following geometric sequence:

$$1; 3; 9; 27; \dots$$

- a.) Calculate the common ratio r .
- b.) Find the n^{th} term.
- c.) Calculate the sum of the first 10 terms. (S_{10}).