Geometric Sequences

$t_n = t_1 \cdot r^{(n-1)}$ ← memorize!

Ex 1 Find the formula for the n^{th} term of $3, -12, 48, -192, \ldots$

Ex 2 Find the specified term:
$t_2 = 18,\ t_3 = 12;\ t_5$

Def: The geometric mean b/w two numbers a and b is $\sqrt{ab}$ when a and b are (+) and $-\sqrt{ab}$ when a and b are negative.

ex: geo mean 4, 9

$$\sqrt{4 \cdot 9} = \sqrt{36} = \boxed{6}$$

Ex 3 Insert three geometric means b/w $\frac{1}{2}$ and $\frac{1}{162}$.