

Geometric Sequences

Geometric Sequences follow a pattern of multiplying a fixed amount (not zero!) from one term to the next

The number being multiplied is called the **common ratio**. It is a constant, fixed amount (stays the same).

Term #	#
1	3 $\frac{6}{3} = 2$
2	6 $\frac{12}{6} = 2$
3	12 $\frac{24}{12} = 2$
4	24

To find the common ratio, divide the 2nd term by the 1st.

exponential

Find the common ratios:

① n	f(n)	r: 4
1	3	3×4^0
2	12	3×4^1
3	48	$3 \times 4 \times 4 = 3 \times 4^2$
4	192	$3 \times 4 \times 4 \times 4 = 3 \times 4^3$
5	768	3×4^4
n	$3 \times 4^{(n-1)}$	

② n	f(n)	r: -3
1	-6	-6×-3^0
2	18	-6×-3^1
3	-54	-6×-3^2
4	162	$-6 \times -3 \times -3 \times -3 = -6 \times -3^3$
5	-486	-6×-3^4
n	$-6 \times -3^{(n-1)}$	