

4. The number 6561 occurs as a term in the sequence $\{ \frac{1}{9}, \frac{1}{3}, 1, 3 \dots \}$. Which term is it? (Put another way, for what n does $t_n = 6561$?) Use an proper t_n formula.

5. Find the general term ($t_n = \dots$) for an arithmetic sequence where $t_9 = 30$ and $t_{22} = 108$.

6. Find the general term ($t_n = \dots$) for an geometric sequence where $t_7 = 5.76$ and $t_{14} = 737.28$.

7. Using an appropriate formula for S_n , calculate the sum of: $-64 - 57 - 50 - 43 - \dots + 90 + 97$

8. Using an appropriate formula for S_n , calculate the sum of: $1024 + 512 + 256 + \dots + \frac{1}{8} + \frac{1}{16}$

Arithmetic Sequence: $t_n = a + (n-1)d$

Geometric Sequence: $t_n = ar^{n-1}$

Arithmetic Series: $S_n = \frac{n}{2}(a + t_n)$

Geometric Series: $S_n = \frac{a(r^n - 1)}{r - 1}$