Name	Series	Sum
Geometric	$\sum_{i=0}^{n} a_0 r^i$	$a_0 \frac{1-r^n}{1-r}$
Arithmetic	$\sum_{i=0}^{n} (a+id)$	$\frac{n}{2}(2a+(n-1)d)$

$$\begin{aligned} E &= \int_{t_1}^{t_2} |x(t)|^2 dt \\ &= \int_{t_1}^{t_2} (x_{Re}(t)^2 + x_{Im}(t)^2) dt. \end{aligned}$$

$$\begin{aligned} E &= \sum_{n=n_1}^{n_2} |x[n]|^2 \\ &= \sum_{n=n_1}^{n_2} (x_{Re}[n]^2 + x_{Im}[n]^2). \end{aligned}$$

$$P_{avg} = \frac{1}{t_2 - t_1} \int_{t_1}^{t_2} |x(t)|^2 dt.$$

$$P_{avg} = \frac{1}{n_2 - n_1 + 1} \sum_{n=n_1}^{n_2} |x[n]|^2.$$

$$P_\infty = \lim_{T \to \infty} \frac{1}{2T} \int_{-T}^{T} |x(t)|^2 dt$$

$$P_\infty = \lim_{N \to \infty} \frac{1}{2N+1} \sum_{n=-N}^{N} |x[n]|^2$$

$$\begin{aligned} x(t) &= x_{even}(t) + x_{odd}(t) \\ &= \frac{x(t) + x(-t)}{2} + \frac{x(t) - x(-t)}{2} \end{aligned}$$

$$\begin{aligned} x[n] &= x_{even}[n] + x_{odd}[n] \\ &= \frac{x[n] + x[-n]}{2} + \frac{x[n] - x[-n]}{2} \end{aligned}$$