

Source: [KBhMATH401SubIndex](#)

## 1 | Series Convergence

In  $\sum_{k=0}^{\infty} a(r^k)$ , where  $|r| < 1$ ,  $\sum_{k=0}^{\infty} a(r^k) = \frac{a}{1-r}$

In  $\sum_{k=0}^n a(r^k)$ ,  $\sum_{k=0}^n a(r^k) = \frac{a-ar^{n+1}}{1-r}$

If the integral to infinity is convergent, the sequence is convergent as long as the sequence is continuous and