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