

## Logarithmic Series.

An expansion for  $\log_e(1+x)$  as a series of powers of  $x$  which is valid only when,  $|x| < 1$ ,

Expansion of  $\log_e(1+x)$ ; if  $|x| < 1$ , then  $\log_e(1+x) = x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots \infty$