

FREQUENTLY USED MACLAURIN SERIES:

- $\frac{1}{1-x} = \sum_{n=0}^{\infty} x^n, \quad |x| < 1$
- $\frac{1}{1+x} = \sum_{n=0}^{\infty} (-1)^n x^n, \quad |x| < 1$
- $e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}, \quad |x| < \infty$
- $\sin(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{(2n+1)!}, \quad |x| < \infty$
- $\cos(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}, \quad |x| < \infty$
- $\tan^{-1}(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{2n+1}, \quad |x| \leq 1$
- $(1+x)^m = 1 + \sum_{k=1}^{\infty} \binom{m}{k} x^k, \quad |x| < 1$