

Taylor and Maclaurin Series

Taylor Series
Definition –

The Maclaurin series occurs when

The linearization of a differentiable function f at a point a is the polynomial of degree one given by

Taylor Polynomial of Order n

$$f(x) = \ln(1+x); a = 0$$

$$f(x) = \cos x \quad a = \frac{\pi}{4}$$

$$f(x) = \sinh x$$

$$f(x) = e^{\frac{x}{2}}$$

$$f(x) = \sin\left(\frac{x}{2}\right)$$

$$f(x) = 2x^3 + x^2 + 3x - 8, \quad a = 1$$