Some Equations

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1 Equations

The base e of the natural logarithm function for all x,

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + ... + \sum_{i=0}^{\infty} \frac{x^i}{i!} \tag{1}$$

When $x < 1$, we have the approximation:

$$1 + x \le e^x \le 1 + x + x^2 \tag{2}$$