

Taylor Series: COSINE

In Calculus you will likely run across some famous expansions of known functions you have used in the past. These will probably include the Maclaurin and Taylor series. What they are is basically infinite series that allow us to know the exact value of some pretty powerful functions like Sine, Cosine and e^x .

For example:

Cosine is represented by the following:

$$\cos(x) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + \frac{x^8}{8!} \cdot \dots$$

Or

$$\cos(x) = \sum_{n=0}^{\infty} \frac{(-1)^n * (x)^{2n}}{(2n)!}$$

For more information, check out the wikipedia page:

https://en.wikipedia.org/wiki/Taylor_series