Γ(*x*)=**Gamma function**

**Description**

he gamma function then is defined as the [analytic continuation](https://en.wikipedia.org/wiki/Analytic_continuation) of this integral function to a [meromorphic function](https://en.wikipedia.org/wiki/Meromorphic_function) that is [holomorphic](https://en.wikipedia.org/wiki/Holomorphic_function)in the whole complex plane except the non-positive integers, where the function has simple poles.



Domain: R = (-∞ , + ∞)

Co-Domain: R = (-∞ , + ∞)

**Attributes**

The gamma function, Γ(α), for α > 0, is defined as Γ(α) = Z ∞ 0 x α−1 e −x dx, where α > 0.

When α = n and n is a positive integer, then the gamma function is related to the factorial function: Γ(n) = (n − 1)!

For specific values of α, exact values of Γ(α), exist. For the positive integers, Γ(n) is defined by (3). The gamma function evaluated at α = 1 2 is Γ 1 2 = √ π.

**USAGE**

The **gamma function uses** some calculus in its definition, as well as the number e Unlike more familiar **functions** such as polynomials or trigonometric **functions**, the **gamma function** is defined as the improper integral of another **function**.