

$$|\Gamma(ix)|^2 = \frac{\pi}{x \sinh \pi x}$$

$$\Gamma(x) = \frac{\int_0^\infty \frac{t^{x-1}}{e^t-1} dt}{\zeta(x)} \quad x > 1$$

$$\frac{\Gamma'(x)}{\Gamma(x)} = -\gamma + \sum_{k=1}^{\infty} \left(\frac{1}{k} - \frac{1}{x+k-1} \right)$$