$$\Gamma(x) = \int_0^\infty e^{-t} t^{x-1}\, dt$$

$$\Gamma(x) = (x-1)!$$

Para $x = 4$

$$\Gamma(4) = \int_0^\infty e^{-t} t^3\, dt = (4-1)! = 3!$$

$$= 3 \times 2 \times 1 = 6.$$