\[ (x + a)^n = \sum_{k=0}^{n} \binom{n}{k} x^k a^{n-k} f(x) \, dx \]

\[ \bigcup_{a}^{b} \bigcap_{c}^{d} E \rightarrow F' \Rightarrow G \]

\[ \sqrt[3]{\sqrt[3]{\sqrt[3]{\frac{2}{3}}}^2} = \frac{2}{3} \]

\[ N_0 < 2^{N_0} < 2^{2^{N_0}} \]

\[ x^a e^{b x^y} e^{c x} \]

\[ \oint_C F \cdot dr = \int_S \nabla \times F \cdot dS \quad \oint_C \vec{A} \cdot d\vec{r} = \iint_S (\nabla \times \vec{A}) \, dS \]

\[ (1 + x)^n = 1 + \frac{nx}{1!} + \frac{n(n-1)x^2}{2!} + \ldots \]

\[ \int_{-\infty}^{\infty} e^{-x^2} \, dx = \left[ \int_{-\infty}^{\infty} e^{-x^2} \, dx \int_{-\infty}^{\infty} e^{-y^2} \, dy \right]^{1/2} \]

\[ = \left[ \int_{0}^{2\pi} \int_{0}^{\infty} e^{-r^2} \, r \, dr \, d\theta \right]^{1/2} \]

\[ = \left[ \pi \int_{0}^{\infty} e^{-u} \, du \right]^{1/2} \]

\[ = \sqrt{\pi} \]