$$L(f') = sL(f) - f(0)$$

$$L(tf) = -\frac{d}{ds}L(f) = -F'(s)$$

$$Y(s) := L(y) \qquad \Gamma(y) = \int_0^\infty e^{-x} x^{y-1}\,dx$$

$$L(t^n) = \frac{n!}{s^{n+1}}, \qquad \Gamma(n+1) = n!$$

$$\Gamma : (0,\infty) \to \mathbb{R}$$

$$\Gamma(2) = \int_0^\infty e^{-x} x\,dx = \underline{1}$$

$$F(s) \longrightarrow 0 \quad \text{as} \quad s \to \infty$$

$$\lim_{x \to x_i} f(x)\,(x - x_i)^{k_i} = a_{ik_i}$$

$\lim_{s \to 0}$

$$\frac{P(x)}{Q(x)} = \frac{x^2 - 5}{x^4 - 1}$$

$$\frac{d}{ds}\,\frac{s^3 - 4s^2 + 4}{(s-1)(s-2)}$$