

Transformadas de Laplace

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| $\mathcal{L}\{c\} = \frac{c}{s}$ | $\mathcal{L}\{f'(t)\} = s\mathcal{L}\{f(t)\} - f(0)$ |
| $\mathcal{L}\{e^{at}\} = \frac{1}{s-a}$ | $\mathcal{L}\{t^n f(t)\} = (-1)^n \frac{d^n}{ds^n} \mathcal{L}\{f(t)\}$ |
| $\mathcal{L}\{t^n\} = \frac{n!}{s^{n+1}}$ | $\mathcal{L}\{u(t-a)\} = \frac{e^{-as}}{s}$ |
| $\mathcal{L}\{\operatorname{sen}(at)\} = \frac{a}{s^2+a^2}$ | $\mathcal{L}\{u(t-a)f(t-a)\}(s) = e^{-as} \mathcal{L}\{f(t)\}(s)$ |
| $\mathcal{L}\{\cos(at)\} = \frac{s}{s^2+a^2}$ | $\mathcal{L}\{\delta(t-a)\} = e^{-as}$ |
| $\mathcal{L}\{\operatorname{senh}(at)\} = \frac{a}{s^2-a^2}$ | $\mathcal{L}\{f(t)\} = \frac{1}{1-e^{-Ts}} \int_0^T e^{-st} f(t) dt = \frac{\mathcal{L}\{\bar{f}(t)\}}{1-e^{-Ts}}$ |
| $\mathcal{L}\{\cosh(at)\} = \frac{s}{s^2-a^2}$ | $\mathcal{L}\{f*g\}(s) = \mathcal{L}\{f\}(s) \cdot \mathcal{L}\{g\}(s)$ |
| $\mathcal{L}\{e^{at} f(t)\} = \mathcal{L}\{f(t)\}(s-a)$ | $\mathcal{L}\left\{\int_0^t f(u) du\right\}(s) = \frac{1}{s} \mathcal{L}\{f(t)\}(s)$ |

Integrales

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| $\int u dv = uv - \int v du$ | $\int x^n dx = \frac{1}{n+1} x^{n+1} + c$ |
| $\int \frac{1}{x} dx = \ln(x) + c$ | $\int e^x dx = e^x + c$ |
| $\int \ln(x) dx = x \ln(x) - x + c$ | $\int \operatorname{sen}(x) dx = -\cos(x) + c$ |
| $\int \cos(x) dx = \operatorname{sen}(x) + c$ | $\int \sec^2(x) dx = \tan(x) + c$ |
| $\int \sec(x) dx = \ln(\sec(x) + \tan(x)) + c$ | $\int \tan(x) dx = -\ln(\cos(x)) + c$ |
| $\int \frac{dx}{\sqrt{a^2 - x^2}} = \arcsen\left(\frac{x}{a}\right) + c$ | $\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \arctan\left(\frac{x}{a}\right) + c$ |
| $\int x^n e^{ax} dx = \frac{1}{a} x^n e^{ax} - \frac{n}{a} \int x^{n-1} e^{ax} dx + c$ | |