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Laplace transform information

$$\mathcal{L}(1) = 1/s$$

$$\mathcal{L}(t^n) = n!/s^{n+1}$$

$$\mathcal{L}(e^{at}) = 1/(s-a)$$

$$\mathcal{L}(\sin \omega t) = \omega/(s^2+\omega^2)$$

$$\mathcal{L}(\cos \omega t) = s/(s^2+\omega^2)$$

$$\mathcal{L}(u(t-a)) = e^{-as}/s$$

$$\mathcal{L}(\delta(t-a)) = e^{-as}$$

$$\mathcal{L}(f^{(n)}) = s^n\mathcal{L}(f) - s^{n-1}f(0) - .... - f^{(n-1)}(0)$$

$$\mathcal{L}(\int_0^t f(\tau)\,d\tau) = \frac{1}{s}\mathcal{L}(f)$$

$$\mathcal{L}(e^{at}f(t)) = F(s-a)$$

$$\mathcal{L}(u(t-a)f(t-a)) = e^{-as}F(s)$$

$$\mathcal{L}(tf(t)) = -F'(s)$$

$$\mathcal{L}(f(t)/t) = \int_s^\infty F(\sigma)\,d\sigma$$

$$\mathcal{L}(f * g)) = \mathcal{L}(f)\mathcal{L}(g)$$

$$\mathcal{L}(f) = \frac{1}{(1-e^{-ps})}\int_0^p e^{-st}f(t)\,dt \quad \text{if f is p periodic}$$