Propriedades das Transformadas de Laplace

$£[A\, f(t)] = A\, F(s)$
$£[f_1(t) \pm f_2(t)] = F_1(s) \pm F_2(s)$
$£\pm\left[\frac{d}{dt} f(t)\right] = sF(s) - f(0\pm)$
$£\pm\left[\frac{d^2}{dt^2} f(t)\right] = s^2F(s) - sf(0\pm) - f^{\cdot}(0\pm)$
$£\pm\left[\frac{d^n}{dt^n} f(t)\right] = s^nF(s) - \sum_{k=1}^{n} s^{n-k(k-1)} f(0\pm)$ *onde* $f(t)^{(k-1)} = \left[\frac{d^{k-1}}{dt^{k-1}} f(t)\right]$
$£\pm\left[\int f(t)dt\right] = \frac{F(s)}{s} + \frac{1}{s}\left[\int f(t)dt\right]_{t=0\pm}$
$£\pm\left[\int \ldots \int f(t)(dt)^n\right] = \frac{F(s)}{s^n} + \sum_{k=1}^{n} \frac{1}{s^{n-k+1}}\left[\int \ldots \int f(t)(dt)^k\right]_{t=0\pm}$
$£\left[\int_0^t f(t)dt\right] = \frac{F(s)}{s}$
$\int_0^\infty f(t)dt = \lim_{s\to 0} F(s)$ se $\int_0^\infty f(t)dt$ existir
$£\left[e^{-at} f(t)\right] = F(s+a)$
$£\left[f(t-a)1(t-a)\right] = e^{-as}F(s) \qquad a \geq 0$
$£\left[tf(t)\right] = -\frac{dF(s)}{ds}$
$£\left[t^2 f(t)\right] = \frac{d^2F(s)}{ds^2}$
$£\left[t^n f(t)\right] = (-1)^n \frac{d^nF(s)}{ds^n}$ *n=1,2,3..*
$£\left[\frac{1}{t} f(t)\right] = \int_s^\infty F(s)ds$ *se* $\lim_{t\to 0} \frac{1}{t} f(t)$ *existir*
$£\left[f(\frac{t}{a})\right] = aF(as)$
$£\left[\int_0^t f_1(t-\tau) f_2(\tau) d\tau\right] = F_1(s)F_2(s)$
$£\left[f(t)g(t)\right] = \frac{1}{2\pi j}\int_{c-j\infty}^{c+j\infty} F(p)G(s-p)dp$