Tabla de Transformadas de Laplace I

	$f(t)$	$F(s)$
1	Impulso unitario $S(t)$	1'
2	Escalón unitario $1(t)$	$\dfrac{1}{s}$
3	t	$\dfrac{1}{s^2}$
4	$\dfrac{t^{n-1}}{(n-1)!}$ $(n = 1, 2, 3, \ldots)$	$\dfrac{1}{s^n}$
5	t^n $(n = 1, 2, 3, \ldots)$	$\dfrac{n!}{s^{n+1}}$
6	e^{-at}	$\dfrac{1}{s+a}$
7	te^{-at}	$\dfrac{1}{(s+a)^2}$
8	$\dfrac{1}{(n-1)!} t^{n-1} e^{-at}$ $(n = 1, 2, 3, \ldots)$	$\dfrac{1}{(s+a)}$
9	$t^n e^{-at}$ $(n = 1, 2, 3, \ldots)$	$\dfrac{n!}{(s+a)^{n+1}}$
10	sen ωt	$\dfrac{\omega}{s^2 + \omega^2}$
11	cos ωt	$\dfrac{s}{s^2 + \omega^2}$
12	senh ωt	$\dfrac{\omega}{s^2 - \omega^2}$
13	cosh ωt	$\dfrac{s}{s^2 - \omega^2}$
14	$\dfrac{1}{a}(1 - e^{-at})$	$\dfrac{1}{s(s+a)}$
15	$\dfrac{1}{b-a}(e^{-at} - e^{-bt})$	$\dfrac{1}{(s+a)(s+b)}$
16	$\dfrac{1}{b-a}(be^{-bt} - ae^{-at})$	$\dfrac{s}{(s+a)(s+b)}$
17	$\dfrac{1}{ab}\left[1 + \dfrac{1}{a-b}(be^{-at} - ae^{-bt})\right]$	$\dfrac{1}{s(s+a)(s+b)}$

Tabla de Transformadas de Laplace II

18	$\dfrac{1}{a^2}(1 - e^{-at} - ate^{-at})$	$\dfrac{1}{s(s+a)^2}$
19	$\dfrac{1}{a^2}(at - 1 + e^{-at})$	$\dfrac{1}{s^2(s+a)}$
20	$e^{-at}\,\text{sen}\,\omega t$	$\dfrac{\omega}{(s+a)^2 + \omega^2}$
21	$e^{-at}\cos \omega t$	$\dfrac{s+a}{(s+a)^2 + \omega^2}$
22	$\dfrac{\omega_n}{\sqrt{1-\zeta^2}}\,e^{-\zeta\omega_n t}\,\text{sen}\,\omega_n\sqrt{1-\zeta^2}\,t$	$\dfrac{\omega_n^2}{s^2 + 2\zeta\omega_n s + \omega_n^2}$
23	$-\dfrac{1}{\sqrt{1-\zeta^2}}\,e^{-\zeta\omega_n t}\,\text{sen}\,(\omega_n\sqrt{1-\zeta^2}\,t - \phi)$ $\phi = \tan^{-1}\dfrac{\sqrt{1-\zeta^2}}{\zeta}$	$\dfrac{s}{s^2 + 2\zeta\omega_n s + \omega_n^2}$
24	$1 - \dfrac{1}{\sqrt{1-\zeta^2}}\,e^{-\zeta\omega_n t}\,\text{sen}\,(\omega_n\sqrt{1-\zeta^2}\,t + \phi)$ $\phi = \tan^{-1}\dfrac{\sqrt{1-\zeta^2}}{\zeta}$	$\dfrac{\omega_n^2}{s(s^2 + 2\zeta\omega_n s + \omega_n^2)}$
25	$1 - \cos \omega t$	$\dfrac{\omega^2}{s(s^2 + \omega^2)}$
26	$\omega t - \text{sen}\,\omega t$	$\dfrac{\omega^3}{s^2(s^2 + \omega^2)}$
27	$\text{sen}\,\omega t - \omega t\cos \omega t$	$\dfrac{2\omega^3}{(s^2 + \omega^2)^2}$
28	$\dfrac{1}{2\omega}\,t\,\text{sen}\,\omega t$	$\dfrac{s}{(s^2 + \omega^2)^2}$
29	$t\cos \omega t$	$\dfrac{s^2 - \omega^2}{(s^2 + \omega^2)^2}$
30	$\dfrac{1}{\omega_2^2 - \omega_1^2}(\cos \omega_1 t - \cos \omega_2 t)\quad (\omega_1^2 \neq \omega_2^2)$	$\dfrac{s}{(s^2 + \omega_1^2)(s^2 + \omega_2^2)}$
31	$\dfrac{1}{2\omega}(\text{sen}\,\omega t + \omega t\cos \omega t)$	$\dfrac{s^2}{(s^2 + \omega^2)^2}$

Tabla de Propiedades de la Transformada de Laplace

1	$\mathcal{L}[Af(t)] = AF(s)$
2	$\mathcal{L}[f_1(t) \pm f_2(t)] = F_1(s) \pm F_2(s)$
3	$\mathcal{L}_\pm\left[\dfrac{d}{dt}\,f(t)\right] = sF(s) - f(0\pm)$
4	$\mathcal{L}_\pm\left[\dfrac{d^2}{dt^2}\,f(t)\right] = s^2F(s) - sf(0\pm) - \dot{f}(0\pm)$
5	$\mathcal{L}_\pm\left[\dfrac{d^n}{dt^n}\,f(t)\right] = s^nF(s) - \displaystyle\sum_{k=1}^{n} s^{n-k}\overset{(k-1)}{f}(0\pm)$ en donde $\overset{(k-1)}{f}(t) = \dfrac{d^{k-1}}{dt^{k-1}}f(t)$
6	$\mathcal{L}_\pm\left[\displaystyle\int f(t)\,dt\right] = \dfrac{F(s)}{s} + \dfrac{1}{s}\left[\displaystyle\int f(t)\,dt\right]_{t=0\pm}$
7	$\mathcal{L}_\pm\left[\displaystyle\int\cdots\int f(t)(dt)^n\right] = \dfrac{F(s)}{s^n} + \displaystyle\sum_{k=1}^{n}\dfrac{1}{s^{n-k+1}}\left[\displaystyle\int\cdots\int f(t)(dt)^k\right]_{t=0\pm}$
8	$\mathcal{L}\left[\displaystyle\int_0^t f(t)\,dt\right] = \dfrac{F(s)}{s}$
9	$\displaystyle\int_0^\infty f(t)\,dt = \lim_{s\to 0} F(s) \quad \text{si} \displaystyle\int_0^\infty f(t)\,dt \text{ existe}$
10	$\mathcal{L}[e^{-at}f(t)] = F(s + a)$
11	$\mathcal{L}[f(t - \alpha)1(t - \alpha)] = e^{-\alpha s}F(s) \qquad \alpha \geq 0$
12	$\mathcal{L}[tf(t)] = -\dfrac{dF(s)}{ds}$
13	$\mathcal{L}[t^2 f(t)] = \dfrac{d^2}{ds^2}F(s)$
14	$\mathcal{L}[t^n f(t)] = (-1)^n\,\dfrac{d^n}{ds^n}\,F(s)\ \ n = 1,2,3,\ldots$
15	$\mathcal{L}\left[\dfrac{1}{t}\,f(t)\right] = \displaystyle\int_s^\infty F(s)\,ds \qquad \text{si} \lim_{s\to 0}\dfrac{1}{t}f(t) \text{ existe}$
16	$\mathcal{L}\left[f\left(\dfrac{t}{a}\right)\right] = aF(as)$
17	$\mathcal{L}\left[\displaystyle\int_0^t f_1(t - \tau)f_2(\tau)\,d\tau\right] = F_1(s)F_2(s)$
18	$\mathcal{L}[f(t)g(t)] = \dfrac{1}{2\pi j}\displaystyle\int_{c-j\infty}^{c+j\infty} F(p)G(s - p)\,dp$