TABLA 6 TRANSFORMADAS DE LAPLACE

	$f(s)$	$F(t)$
6.1	$\frac{1}{s}$	1
6.2	$\frac{1}{s^2}$	t
6.3	$\frac{1}{s^n}$ $\quad n = 1, 2, 3, \ldots$	$\frac{t^{n-1}}{(n-1)!}$, $\quad 0! = 1$
6.4	$\frac{1}{s^n}$ $\quad n > 0$	$\frac{t^{n-1}}{\Gamma(n)}$
6.5	$\frac{1}{s-a}$	e^{at}
6.6	$\frac{1}{(s-a)^n}$ $\quad n = 1, 2, 3, \ldots$	$\frac{t^{n-1}e^{at}}{(n-1)!}$, $\quad 0! = 1$
6.7	$\frac{1}{(s-a)^n}$ $\quad n > 0$	$\frac{t^{n-1}e^{at}}{\Gamma(n)}$
6.8	$\frac{1}{s^2+a^2}$	$\frac{\text{sen } at}{a}$
6.9	$\frac{s}{s^2+a^2}$	$\cos at$
6.10	$\frac{1}{(s-b)^2+a^2}$	$\frac{e^{bt}\text{ sen } at}{a}$
6.11	$\frac{s-b}{(s-b)^2+a^2}$	$e^{bt}\cos at$
6.12	$\frac{1}{s^2-a^2}$	$\frac{\text{senh } at}{a}$
6.13	$\frac{s}{s^2-a^2}$	$\cosh at$

	$f(s)$	$F(t)$
6.14	$\dfrac{1}{(s-b)^2-a^2}$	$\dfrac{e^{bt}\operatorname{senh} at}{a}$
6.15	$\dfrac{s-b}{(s-b)^2-a^2}$	$e^{bt}\cosh at$
6.16	$\dfrac{1}{(s-a)(s-b)} \quad a \neq b$	$\dfrac{e^{bt}-e^{at}}{b-a}$
6.17	$\dfrac{s}{(s-a)(s-b)} \quad a \neq b$	$\dfrac{be^{bt}-ae^{at}}{b-a}$
6.18	$\dfrac{1}{(s^2+a^2)^2}$	$\dfrac{\operatorname{sen} at - at\cos at}{2a^3}$
6.19	$\dfrac{s}{(s^2+a^2)^2}$	$\dfrac{t\operatorname{sen} at}{2a}$
6.20	$\dfrac{s^2}{(s^2+a^2)^2}$	$\dfrac{\operatorname{sen} at + at\cos at}{2a}$
6.21	$\dfrac{s^3}{(s^2+a^2)^2}$	$\cos at - \frac{1}{2}at\operatorname{sen} at$
6.22	$\dfrac{s^2-a^2}{(s^2+a^2)^2}$	$t\cos at$
6.23	$\dfrac{1}{(s^2-a^2)^2}$	$\dfrac{at\cosh at - \operatorname{senh} at}{2a^3}$
6.24	$\dfrac{s}{(s^2-a^2)^2}$	$\dfrac{t\operatorname{senh} at}{2a}$
6.25	$\dfrac{s^2}{(s^2-a^2)^2}$	$\dfrac{\operatorname{senh} at + at\cosh at}{2a}$
6.26	$\dfrac{s^3}{(s^2-a^2)^2}$	$\cosh at + \frac{1}{2}at\operatorname{senh} at$
6.27	$\dfrac{s^2+a^2}{(s^2-a^2)^2}$	$t\cosh at$
6.28	$\dfrac{1}{(s^2+a^2)^3}$	$\dfrac{(3-a^2t^2)\operatorname{sen} at - 3at\cos at}{8a^5}$

	$f(s)$	$F(t)$
6.29	$\frac{s}{(s^2+a^2)^3}$	$\frac{t \operatorname{sen} at - at^2 \cos at}{8a^3}$
6.30	$\frac{s^2}{(s^2+a^2)^3}$	$\frac{(1+a^2t^2) \operatorname{sen} at - at \cos at}{8a^3}$
6.31	$\frac{s^3}{(s^2+a^2)^3}$	$\frac{3t \operatorname{sen} at + at^2 \cos at}{8a}$
6.32	$\frac{s^4}{(s^2+a^2)^3}$	$\frac{(3-a^2t^2) \operatorname{sen} at + 5at \cos at}{8a}$
6.33	$\frac{s^5}{(s^2+a^2)^3}$	$\frac{(8-a^2t^2) \cos at - 7at \operatorname{sen} at}{8}$
6.34	$\frac{3s^2-a^2}{(s^2+a^2)^3}$	$\frac{t^2 \operatorname{sen} at}{2a}$
6.35	$\frac{s^3-3a^2s}{(s^2+a^2)^3}$	$\frac{1}{2}t^2 \cos at$
6.36	$\frac{s^4-6a^2s^2+a^4}{(s^2+a^2)^4}$	$\frac{1}{6}t^3 \cos at$
6.37	$\frac{s^3-a^2s}{(s^2+a^2)^4}$	$\frac{t^3 \operatorname{sen} at}{24a}$
6.38	$\frac{1}{(s^2-a^2)^3}$	$\frac{(3+a^2t^2) \operatorname{senh} at - 3at \cosh at}{8a^5}$
6.39	$\frac{s}{(s^2-a^2)^3}$	$\frac{at^2 \cosh at - t \operatorname{senh} at}{8a^3}$
6.40	$\frac{s^2}{(s^2-a^2)^3}$	$\frac{at \cosh at + (a^2t^2-1) \operatorname{senh} at}{8a^3}$
6.41	$\frac{s^3}{(s^2-a^2)^3}$	$\frac{3t \operatorname{senh} at + at^2 \cosh at}{8a}$
6.42	$\frac{s^4}{(s^2-a^2)^3}$	$\frac{(3+a^2t^2) \operatorname{senh} at + 5at \cosh at}{8a}$
6.43	$\frac{s^5}{(s^2-a^2)^3}$	$\frac{(8+a^2t^2) \cosh at + 7at \operatorname{senh} at}{8}$

	$f(s)$	$F(t)$
6.44	$\dfrac{3s^2 + a^2}{(s^2 - a^2)^3}$	$\dfrac{t^2 \operatorname{senh} at}{2a}$
6.45	$\dfrac{s^3 + 3a^2 s}{(s^2 - a^2)^3}$	$\frac{1}{2} t^2 \cosh at$
6.46	$\dfrac{s^4 + 6a^2 s^2 + a^4}{(s^2 - a^2)^4}$	$\frac{1}{6} t^3 \cosh at$
6.47	$\dfrac{s^3 + a^2 s}{(s^2 - a^2)^4}$	$\dfrac{t^3 \operatorname{senh} at}{24a}$
6.48	$\dfrac{1}{s^3 + a^3}$	$\dfrac{e^{at/2}}{3a^2}\left\{\sqrt{3} \operatorname{sen} \dfrac{\sqrt{3}\, at}{2} - \cos \dfrac{\sqrt{3}\, at}{2} + e^{-3at/2}\right\}$
6.49	$\dfrac{s}{s^3 + a^3}$	$\dfrac{e^{at/2}}{3a}\left\{\cos \dfrac{\sqrt{3}\, at}{2} + \sqrt{3} \operatorname{sen} \dfrac{\sqrt{3}\, at}{2} - e^{-3at/2}\right\}$
6.50	$\dfrac{s^2}{s^3 + a^3}$	$\dfrac{1}{3}\left(e^{-at} + 2e^{at/2} \cos \dfrac{\sqrt{3}\, at}{2}\right)$
6.51	$\dfrac{1}{s^3 - a^3}$	$\dfrac{e^{-at/2}}{3a^2}\left\{e^{3at/2} - \cos \dfrac{\sqrt{3}\, at}{2} - \sqrt{3} \operatorname{sen} \dfrac{\sqrt{3}\, at}{2}\right\}$
6.52	$\dfrac{s}{s^3 - a^3}$	$\dfrac{e^{-at/2}}{3a}\left\{\sqrt{3} \operatorname{sen} \dfrac{\sqrt{3}\, at}{2} - \cos \dfrac{\sqrt{3}\, at}{2} + e^{3at/2}\right\}$
6.53	$\dfrac{s^2}{s^3 - a^3}$	$\dfrac{1}{3}\left(e^{at} + 2e^{-at/2} \cos \dfrac{\sqrt{3}\, at}{2}\right)$
6.54	$\dfrac{1}{s^4 + 4a^4}$	$\dfrac{1}{4a^3}(\operatorname{sen} at \cosh at - \cos at \operatorname{senh} at)$
6.55	$\dfrac{s}{s^4 + 4a^4}$	$\dfrac{\operatorname{sen} at \operatorname{senh} at}{2a^2}$
6.56	$\dfrac{s^2}{s^4 + 4a^4}$	$\dfrac{1}{2a}(\operatorname{sen} at \cosh at + \cos at \operatorname{senh} at)$
6.57	$\dfrac{s^3}{s^4 + 4a^4}$	$\cos at \cosh at$
6.58	$\dfrac{1}{s^4 - a^4}$	$\dfrac{1}{2a^3}(\operatorname{senh} at - \operatorname{sen} at)$

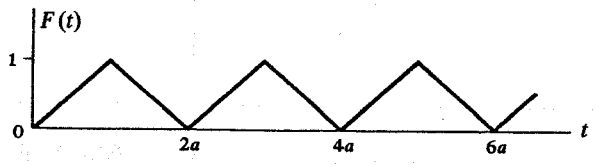
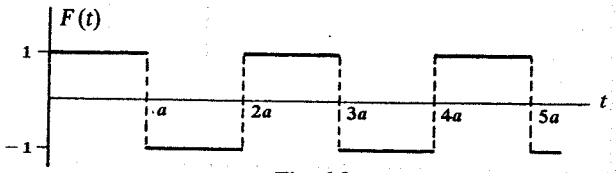
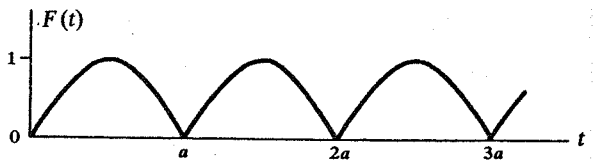
	$f(s)$	$F(t)$
6.59	$\dfrac{s}{s^4 - a^4}$	$\dfrac{1}{2a^2}(\cosh at - \cos at)$
6.60	$\dfrac{s^2}{s^4 - a^4}$	$\dfrac{1}{2a}(\operatorname{senh} at + \operatorname{sen} at)$
6.61	$\dfrac{s^3}{s^4 - a^4}$	$\frac{1}{2}(\cosh at + \cos at)$
6.62	$\dfrac{1}{\sqrt{s+a} + \sqrt{s+b}}$	$\dfrac{e^{-bt} - e^{-at}}{2(b-a)\sqrt{\pi t^3}}$
6.63	$\dfrac{1}{s\sqrt{s+a}}$	$\dfrac{\operatorname{fer}\sqrt{at}}{\sqrt{a}}$
6.64	$\dfrac{1}{\sqrt{s}(s-a)}$	$\dfrac{e^{at}\operatorname{fer}\sqrt{at}}{\sqrt{a}}$
6.65	$\dfrac{1}{\sqrt{s-a} + b}$	$e^{at}\left\{\dfrac{1}{\sqrt{\pi t}} - be^{b^2 t}\operatorname{fcer}(b\sqrt{t})\right\}$
6.66	$\dfrac{1}{\sqrt{s^2 + a^2}}$	$J_0(at)$
6.67	$\dfrac{1}{\sqrt{s^2 - a^2}}$	$I_0(at)$
6.68	$\dfrac{(\sqrt{s^2 + a^2} - s)^n}{\sqrt{s^2 + a^2}}$ $n > -1$	$a^n J_n(at)$
6.69	$\dfrac{(s - \sqrt{s^2 - a^2})^n}{\sqrt{s^2 - a^2}}$ $n > -1$	$a^n I_n(at)$
6.70	$\dfrac{e^{b(s - \sqrt{s^2 + a^2})}}{\sqrt{s^2 + a^2}}$	$J_0(a\sqrt{t(t+2b)})$
6.71	$\dfrac{e^{-b\sqrt{s^2 + a^2}}}{\sqrt{s^2 + a^2}}$	$\begin{cases} J_0(a\sqrt{t^2 - b^2}) & t > b \\ 0 & t < b \end{cases}$
6.72	$\dfrac{1}{(s^2 + a^2)^{3/2}}$	$\dfrac{tJ_1(at)}{a}$

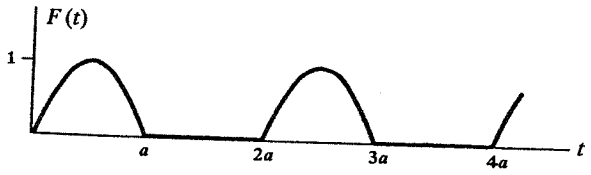
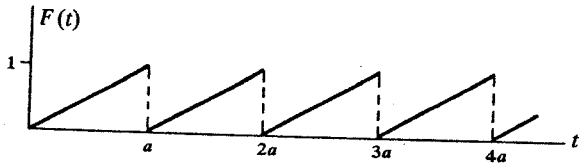
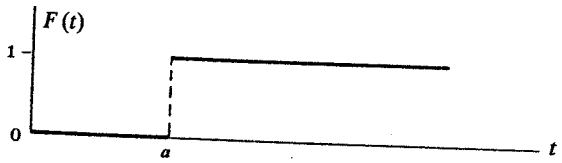
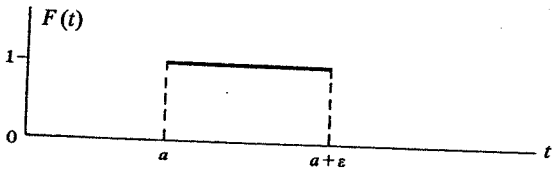
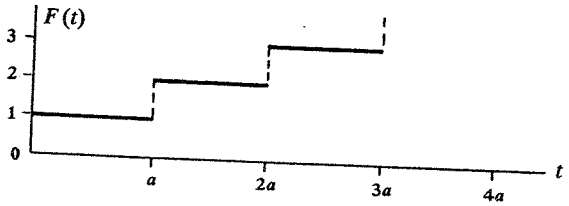
	$f(s)$	$F(t)$
6.73	$\dfrac{s}{(s^2+a^2)^{3/2}}$	$tJ_0(at)$
6.74	$\dfrac{s^2}{(s^2+a^2)^{3/2}}$	$J_0(at)-atJ_1(at)$
6.75	$\dfrac{1}{(s^2-a^2)^{3/2}}$	$\dfrac{tI_1(at)}{a}$
6.76	$\dfrac{s}{(s^2-a^2)^{3/2}}$	$tI_0(at)$
6.77	$\dfrac{s^2}{(s^2-a^2)^{3/2}}$	$I_0(at)+atI_1(at)$
6.78	$\dfrac{1}{s(e^s-1)}=\dfrac{e^{-s}}{s(1-e^{-s})}$ Véase además 6.141.	$F(t)=n,\ n\leqq t<n+1,\ n=0,\ 1,\ 2,\ldots$
6.79	$\dfrac{1}{s(e^s-r)}=\dfrac{e^{-s}}{s(1-re^{-s})}$	$F(t)=\sum_{k=1}^{[t]} r^k$ donde $[t]$ = máximo entero $\leqq t$
6.80	$\dfrac{e^s-1}{s(e^s-r)}=\dfrac{1-e^{-s}}{s(1-re^{-s})}$ Véase además 6.143.	$F(t)=r^n,\ n\leqq t<n+1,\ n=0,\ 1,\ 2,\ldots$
6.81	$\dfrac{e^{-a/s}}{\sqrt{s}}$	$\dfrac{\cos 2\sqrt{at}}{\sqrt{\pi t}}$
6.82	$\dfrac{e^{-a/s}}{s^{3/2}}$	$\dfrac{\operatorname{sen} 2\sqrt{at}}{\sqrt{\pi a}}$
6.83	$\dfrac{e^{-a/s}}{s^{n+1}}\quad n>-1$	$\left(\dfrac{t}{a}\right)^{n/2}J_n(2\sqrt{at})$
6.84	$\dfrac{e^{-a\sqrt{s}}}{\sqrt{s}}$	$\dfrac{e^{-a^2/4t}}{\sqrt{\pi t}}$
6.85	$e^{-a\sqrt{s}}$	$\dfrac{a}{2\sqrt{\pi t^3}}e^{-a^2/4t}$

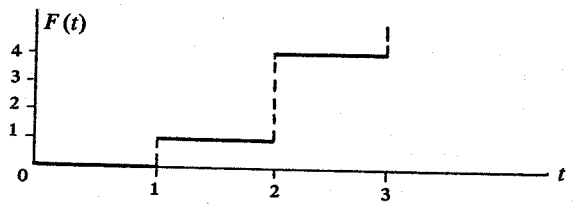
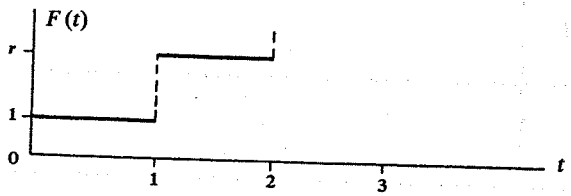
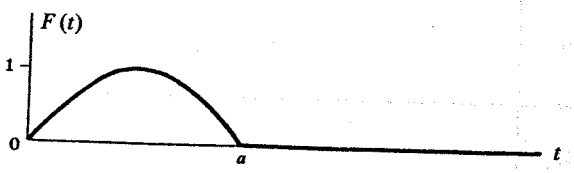
	$f(s)$	$F(t)$
6.86	$\dfrac{1-e^{-a\sqrt{s}}}{s}$	$\operatorname{fer}(a/2\sqrt{t})$
6.87	$\dfrac{e^{-a\sqrt{s}}}{s}$	$\operatorname{fcer}(a/2\sqrt{t})$
6.88	$\dfrac{e^{-a\sqrt{s}}}{\sqrt{s}(\sqrt{s}+b)}$	$e^{b(bt+a)}\operatorname{fcer}\left(b\sqrt{t}+\dfrac{a}{2\sqrt{t}}\right)$
6.89	$\dfrac{e^{-a/\sqrt{s}}}{s^{n+1}} \quad n>-1$	$\dfrac{1}{\sqrt{\pi t}\,a^{2n+1}}\displaystyle\int_0^\infty u^n e^{-u^2/4a^2t} J_{2n}(2\sqrt{u})\,du$
6.90	$\ln\left(\dfrac{s+a}{s+b}\right)$	$\dfrac{e^{-bt}-e^{-at}}{t}$
6.91	$\dfrac{\ln[(s^2+a^2)/a^2]}{2s}$	$Ic(at)$
6.92	$\dfrac{\ln[(s+a)/a]}{s}$	$Ie(at)$
6.93	$-\dfrac{(\gamma+\ln s)}{s}$ γ = constante de Euler = 0,5772156...	$\ln t$
6.94	$\ln\left(\dfrac{s^2+a^2}{s^2+b^2}\right)$	$\dfrac{2(\cos at-\cos bt)}{t}$
6.95	$\dfrac{\pi^2}{6s}+\dfrac{(\gamma+\ln s)^2}{s}$ γ = constante de Euler = 0,5772156...	$\ln^2 t$
6.96	$\dfrac{\ln s}{s}$	$-(\ln t+\gamma)$ γ = constante de Euler = 0,5772156...
6.97	$\dfrac{\ln^2 s}{s}$	$(\ln t+\gamma)^2-\frac{1}{6}\pi^2$ γ = constante de Euler = 0,5772156...
6.98	$\dfrac{\Gamma'(n+1)-\Gamma(n+1)\ln s}{s^{n+1}} \quad n>-1$	$t^n \ln t$

	$f(s)$	$F(t)$
6.99	$\text{tg}^{-1}(a/s)$	$\dfrac{\text{sen } at}{t}$
6.100	$\dfrac{\text{tg}^{-1}(a/s)}{s}$	$Is(at)$
6.101	$\dfrac{e^{a/s}}{\sqrt{s}}\,\text{fcer}\,(\sqrt{a/s})$	$\dfrac{e^{-2\sqrt{at}}}{\sqrt{\pi t}}$
6.102	$e^{s^2/4a^2}\,\text{fcer}\,(s/2a)$	$\dfrac{2a}{\sqrt{\pi}}\,e^{-a^2t^2}$
6.103	$\dfrac{e^{s^2/4a^2}\,\text{fcer}\,(s/2a)}{s}$	$\text{fer}\,(at)$
6.104	$\dfrac{e^{as}\,\text{fcer}\,\sqrt{as}}{\sqrt{s}}$	$\dfrac{1}{\sqrt{\pi(t+a)}}$
6.105	$e^{as}\,Ie(as)$	$\dfrac{1}{t+a}$
6.106	$\dfrac{1}{a}\left[\cos as\left\{\dfrac{\pi}{2} - Is(as)\right\} - \text{sen } as\, Ic(as)\right]$	$\dfrac{1}{t^2+a^2}$
6.107	$\text{sen } as\left\{\dfrac{\pi}{2} - Is(as)\right\} + \cos as\, Ic(as)$	$\dfrac{t}{t^2+a^2}$
6.108	$\dfrac{\cos as\left\{\dfrac{\pi}{2} - Is(as)\right\} - \text{sen } as\, Ic(as)}{s}$	$\text{tg}^{-1}(t/a)$
6.109	$\dfrac{\text{sen } as\left\{\dfrac{\pi}{2} - Is(as)\right\} + \cos as\, Ic(as)}{s}$	$\dfrac{1}{2}\,ln\left(\dfrac{t^2+a^2}{a^2}\right)$
6.110	$\left[\dfrac{\pi}{2} - Is(as)\right]^2 + Ic^2(as)$	$\dfrac{1}{t}\ln\left(\dfrac{t^2+a^2}{a^2}\right)$
6.111	0	$\mathcal{N}(t) =$ función nula
6.112	1	$\delta(t) =$ función delta
6.113	e^{-as}	$\delta(t-a)$

	$f(s)$	$F(t)$
6.114	$\dfrac{e^{-as}}{s}$ Véase además 6.139.	$\mathcal{U}(t-a)$
6.115	$\dfrac{\operatorname{senh} sx}{s \operatorname{senh} sa}$	$\dfrac{x}{a} + \dfrac{2}{\pi}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{n} \operatorname{sen} \dfrac{n\pi x}{a} \cos \dfrac{n\pi t}{a}$
6.116	$\dfrac{\operatorname{senh} sx}{s \cosh sa}$	$\dfrac{4}{\pi}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{2n-1} \operatorname{sen} \dfrac{(2n-1)\pi x}{2a} \operatorname{sen} \dfrac{(2n-1)\pi t}{2a}$
6.117	$\dfrac{\cosh sx}{s \operatorname{senh} as}$	$\dfrac{t}{a} + \dfrac{2}{\pi}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{n} \cos \dfrac{n\pi x}{a} \operatorname{sen} \dfrac{n\pi t}{a}$
6.118	$\dfrac{\cosh sx}{s \cosh sa}$	$1 + \dfrac{4}{\pi}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{2n-1} \cos \dfrac{(2n-1)\pi x}{2a} \cos \dfrac{(2n-1)\pi t}{2a}$
6.119	$\dfrac{\operatorname{senh} sx}{s^2 \operatorname{senh} sa}$	$\dfrac{xt}{a} + \dfrac{2a}{\pi^2}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{n^2} \operatorname{sen} \dfrac{n\pi x}{a} \operatorname{sen} \dfrac{n\pi t}{a}$
6.120	$\dfrac{\operatorname{senh} sx}{s^2 \cosh sa}$	$x + \dfrac{8a}{\pi^2}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{(2n-1)^2} \operatorname{sen} \dfrac{(2n-1)\pi x}{2a} \cos \dfrac{(2n-1)\pi t}{2a}$
6.121	$\dfrac{\cosh sx}{s^2 \operatorname{senh} sa}$	$\dfrac{t^2}{2a} + \dfrac{2a}{\pi^2}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{n^2} \cos \dfrac{n\pi x}{a}\left(1 - \cos \dfrac{n\pi t}{a}\right)$
6.122	$\dfrac{\cosh sx}{s^2 \cosh sa}$	$t + \dfrac{8a}{\pi^2}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{(2n-1)^2} \cos \dfrac{(2n-1)\pi x}{2a} \operatorname{sen} \dfrac{(2n-1)\pi t}{2a}$
6.123	$\dfrac{\cosh sx}{s^3 \cosh sa}$	$\frac{1}{2}(t^2 + x^2 - a^2) - \dfrac{16a^2}{\pi^3}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{(2n-1)^3} \cos \dfrac{(2n-1)\pi x}{2a} \cos \dfrac{(2n-1)\pi t}{2a}$
6.124	$\dfrac{\operatorname{senh} x\sqrt{s}}{\operatorname{senh} a\sqrt{s}}$	$\dfrac{2\pi}{a^2}\sum_{n=1}^{\infty} (-1)^n n e^{-n^2\pi^2 t/a^2} \operatorname{sen} \dfrac{n\pi x}{a}$
6.125	$\dfrac{\cosh x\sqrt{s}}{\cosh a\sqrt{s}}$	$\dfrac{\pi}{a^2}\sum_{n=1}^{\infty} (-1)^{n-1}(2n-1) e^{-(2n-1)^2\pi^2 t/4a^2} \cos \dfrac{(2n-1)\pi x}{2a}$
6.126	$\dfrac{\operatorname{senh} x\sqrt{s}}{\sqrt{s} \cosh a\sqrt{s}}$	$\dfrac{2}{a}\sum_{n=1}^{\infty} (-1)^{n-1} e^{-(2n-1)^2\pi^2 t/4a^2} \operatorname{sen} \dfrac{(2n-1)\pi x}{2a}$
6.127	$\dfrac{\cosh x\sqrt{s}}{\sqrt{s} \operatorname{senh} a\sqrt{s}}$	$\dfrac{1}{a} + \dfrac{2}{a}\sum_{n=1}^{\infty} (-1)^n e^{-n^2\pi^2 t/a^2} \cos \dfrac{n\pi x}{a}$

	$f(s)$	$F(t)$
6.128	$\dfrac{\operatorname{senh} x\sqrt{s}}{s \operatorname{senh} a\sqrt{s}}$	$\dfrac{x}{a} + \dfrac{2}{\pi}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{n} e^{-n^2\pi^2 t/a^2} \operatorname{sen} \dfrac{n\pi x}{a}$
6.129	$\dfrac{\cosh x\sqrt{s}}{s \cosh a\sqrt{s}}$	$1 + \dfrac{4}{\pi}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{2n-1} e^{-(2n-1)^2\pi^2 t/4a^2} \cos \dfrac{(2n-1)\pi x}{2a}$
6.130	$\dfrac{\operatorname{senh} x\sqrt{s}}{s^2 \operatorname{senh} a\sqrt{s}}$	$\dfrac{xt}{a} + \dfrac{2a^2}{\pi^3}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{n^3}(1 - e^{-n^2\pi^2 t/a^2}) \operatorname{sen} \dfrac{n\pi x}{a}$
6.131	$\dfrac{\cosh x\sqrt{s}}{s^2 \cosh a\sqrt{s}}$	$\frac{1}{2}(x^2 - a^2) + t - \dfrac{16a^2}{\pi^3}\sum_{n=1}^{\infty} \dfrac{(-1)^n}{(2n-1)^3} e^{-(2n-1)^2\pi^2 t/4a^2} \cos \dfrac{(2n-1)\pi x}{2a}$
6.132	$\dfrac{J_0(ix\sqrt{s})}{sJ_0(ia\sqrt{s})}$	$1 - 2\sum_{n=1}^{\infty} \dfrac{e^{-\lambda_n^2 t/a^2} J_0(\lambda_n x/a)}{\lambda_n J_1(\lambda_n)}$ donde $\lambda_1, \lambda_2, \ldots$ son las raíces positivas de $J_0(\lambda) = 0$
6.133	$\dfrac{J_0(ix\sqrt{s})}{s^2 J_0(ia\sqrt{s})}$	$\frac{1}{4}(x^2 - a^2) + t + 2a^2\sum_{n=1}^{\infty} \dfrac{e^{-\lambda_n^2 t/a^2} J_0(\lambda_n x/a)}{\lambda_n^3 J_1(\lambda_n)}$ donde $\lambda_1, \lambda_2, \ldots$ son las raíces positivas de $J_0(\lambda) = 0$
6.134	$\dfrac{1}{as^2} \operatorname{tgh}\left(\dfrac{as}{2}\right)$	**Función de onda triangular**  **Fig. 6-1**
6.135	$\dfrac{1}{s} \operatorname{tgh}\left(\dfrac{as}{2}\right)$	**Función de onda cuadrada**  **Fig. 6-2**
6.136	$\dfrac{\pi a}{a^2 s^2 + \pi^2} \operatorname{cotgh}\left(\dfrac{as}{2}\right)$	**Función de onda senoidal rectificada**  **Fig. 6-3**

	$f(s)$	$F(t)$
6.137	$\dfrac{\pi a}{(a^2s^2+\pi^2)(1-e^{-as})}$	**Función de onda senoidal semi-rectificada**  **Fig. 6-4**
6.138	$\dfrac{1}{as^2}-\dfrac{e^{-as}}{s(1-e^{-as})}$	**Función de onda en diente de sierra**  **Fig. 6-5**
6.139	$\dfrac{e^{-as}}{s}$ Véase además 6.114.	**Función unitaria de Heaviside** $\mathcal{U}(t-a)$  **Fig. 6-6**
6.140	$\dfrac{e^{-as}(1-e^{-\varepsilon s})}{s}$	**Función de pulsaciones**  **Fig. 6-7**
6.141	$\dfrac{1}{s(1-e^{-as})}$ Véase además 6.78.	**Función escalonada**  **Fig. 6-8**

	$f(s)$	$F(t)$
6.142	$\dfrac{e^{-s}+e^{-2s}}{s(1-e^{-s})^2}$	$F(t)=n^2,\ n \leqq t < n+1,\ n=0,\ 1,\ 2,\ldots$  **Fig. 6-9**
6.143	$\dfrac{1-e^{-s}}{s(1-re^{-s})}$ Véase además 6.80.	$F(t)=r^n,\ n \leqq t < n+1,\ n=0,\ 1,\ 2,\ldots$  **Fig. 6-10**
6.144	$\dfrac{\pi a(1+e^{-as})}{a^2s^2+\pi^2}$	$F(t)=\begin{cases}\text{sen}\,(\pi t/a) & 0 \leqq t \leqq a \\ 0 & t > a\end{cases}$  **Fig. 6-11**