

Tables de Transformées en z

$F(s)$	$f(t) = \mathcal{L}^{-1}[F(s)]$	$f(kT) = f_k$	$\mathcal{Z}[f_k] = F(z)$
$\frac{1}{p}$	1	1	$\frac{z}{z-1}$
$\frac{1}{p^2}$	t	kT	$\frac{Tz}{(z-1)^2}$
$\frac{1}{s^3}$	$\frac{1}{2}t^2$	$\frac{1}{2}(kT)^2$	$\frac{T^2}{2} \frac{z(z+1)}{(z-1)^3}$
$\frac{1}{p+a}$	e^{-at}	$c^k, \quad c = e^{-aT}$	$\frac{z}{z-c}$
$\frac{1}{(p+a)^2}$	te^{-at}	$(kT)c^k, \quad c = e^{-aT}$	$\frac{cTz}{(z-c)^2}$
$\frac{1}{(p+a)^3}$	$\frac{1}{2}t^2 e^{-at}$	$\frac{1}{2}(kT)^2 c^k, \quad c = e^{-aT}$	$\frac{T^2}{2} \frac{cz(z+c)}{(z-c)^3}$
$\frac{a}{p(p+a)}$	$1 - e^{-at}$	$1 - c^k, \quad c = e^{-aT}$	$\frac{(1-c)z}{(z-1)(z-c)}$
$\frac{a}{s^2(s+a)}$	$\frac{1}{a} at - (1 - e^{-at})$	$\frac{1}{a} kaT - 1 + c^k, \quad c = e^{-aT}$	$\frac{Tz}{(z-1)^2} - \frac{(1-c)z}{a(z-1)(z-c)}$
$\frac{s}{(s+a)^2}$	$(1-at)e^{-at}$	$(1-kaT)c^k, \quad c = e^{-aT}$	$\frac{z^2 - c(1+aT)z}{(z-c)^2}$
$\frac{a^2}{s(s+a)^2}$	$1 - (1+at)e^{-at}$	$1 - (1+kaT)c^k, \quad c = e^{-aT}$	$\frac{z}{z-1} - \frac{z}{z-c} - \frac{caTz}{(z-c)^2}$
$\frac{b-a}{(s+a)(s+b)}$	$e^{-at} - e^{-bt}$	$c^k - d^k, \quad \begin{cases} c = e^{-aT} \\ d = e^{-bT} \end{cases}$	$\frac{(c-d)z}{(z-c)(z-d)}$
$\frac{(b-a)s}{(s+a)(s+b)}$	$-ae^{-at} + be^{-bt}$	$-ac^k + bd^k, \quad \begin{cases} c = e^{-aT} \\ d = e^{-bT} \end{cases}$	$\frac{(b-a)z^2 - (bc-ad)z}{(z-c)(z-d)}$
$\frac{ab}{s(s+a)(s+b)}$	$1 + \frac{be^{-at} - ae^{-bt}}{a-b}$	$1 + \frac{bc^k - ad^k}{a-b}, \quad \begin{cases} c = e^{-aT} \\ d = e^{-bT} \end{cases}$	$\frac{z}{z-1} + \frac{b}{a-b} \frac{z}{z-c} - \frac{a}{a-b} \frac{z}{z-d}$
$\frac{\omega_0}{s^2 + \omega_0^2}$	$\sin \omega_0 t$	$\sin k\omega_0 T$	$\frac{z \sin \omega_0 T}{z^2 - 2z \cos \omega_0 T + 1}$
$\frac{s}{s^2 + \omega_0^2}$	$\cos \omega_0 t$	$\cos k\omega_0 T$	$\frac{z^2 - z \cos \omega_0 T}{z^2 - 2z \cos \omega_0 T + 1}$

$F(s)$	$f(t) = \mathcal{L}^{-1}[F(s)]$	$f(kT) = f_k$	$\mathcal{Z}[f_k] = F(z)$
$\frac{\omega_0}{s^2 - \omega_0^2}$	$\text{sh } \omega_0 t$	$\text{sh } k\omega_0 T$	$\frac{z \text{ sh } \omega_0 T}{z^2 - 2z \text{ ch } \omega_0 T + 1}$
$\frac{s}{s^2 - \omega_0^2}$	$\text{ch } \omega_0 t$	$\text{ch } k\omega_0 T$	$\frac{z^2 - z \text{ ch } \omega_0 T}{z^2 - 2z \text{ ch } \omega_0 T + 1}$
$\frac{\omega_0^2}{s(s^2 - \omega_0^2)}$	$\text{ch } \omega_0 t - 1$	$\text{ch } k\omega_0 T - 1$	$\frac{z(z - \text{ch } \omega_0 T)}{z^2 - 2z \text{ ch } \omega_0 T + 1} - \frac{z}{z - 1} =$ $\frac{(\text{ch } \omega_0 T - 1)(z^2 + z)}{(z - 1)(z^2 - 2z \text{ ch } \omega_0 T + 1)}$
$\frac{\omega_0^2}{s(s^2 + \omega_0^2)}$	$1 - \cos \omega_0 t$	$1 - \cos k\omega_0 T$	$\frac{z}{z - 1} - \frac{z(z - \cos \omega_0 T)}{z^2 - 2z \cos \omega_0 T + 1} =$ $\frac{(1 - \cos \omega_0 T)(z^2 + z)}{(z - 1)[z^2 - 2z \cos \omega_0 T + 1]}$
$\frac{s + a}{(s + a)^2 + \omega_0^2}$	$e^{-at} \cos \omega_0 t$	$c^k \cos k\omega_0 T, \quad c = e^{-aT}$	$\frac{z^2 - cz \cos \omega_0 T}{z^2 - 2cz \cos \omega_0 T + c^2}$
$\frac{s + a}{(s + a)^2 + \left(\frac{\pi}{T}\right)^2}$	$e^{-at} \cos \frac{\pi t}{T}$	$(-c)^k, \quad c = e^{-aT}$	$\frac{z}{z + c}$
$\frac{\omega_0}{(s + a)^2 + \omega_0^2}$	$e^{-at} \sin \omega_0 t$	$c^k \sin k\omega_0 T, \quad c = e^{-aT}$	$\frac{cz \sin \omega_0 T}{z^2 - 2cz \cos \omega_0 T + c^2}$