

PROPRIETÀ
$\mathbf{L}(k_1 f_1(t) + k_2 f_2(t)) = k_1 F_1(s) + k_2 F_2(s)$
$\mathbf{L}(f(t-t)) = e^{-st} F(s) + e^{-st} \int_{-t}^0 f(t) \cdot e^{-st} dt$
$F(s-a) = \mathbf{L}(e^{at} \cdot f(t))$
$\mathbf{L}(f(a \cdot t)) = \frac{1}{a} F\left(\frac{s}{a}\right)$
$F_1(s) \cdot F_2(s) = \mathbf{L}(f_1(t) * f_2(t))$
$\mathbf{L}\left(\frac{d f}{dt}\right) = s \cdot F(s) - f(0)$
$\mathbf{L}\left(\int_0^t f(t) dt\right) = \frac{F(s)}{s}$
$\frac{d F(s)}{ds} = \mathbf{L}(-t \cdot f(t))$
$\lim_{t \rightarrow 0} f(t) = \lim_{s \rightarrow \infty} s \cdot F(s)$
$\lim_{t \rightarrow +\infty} f(t) = \lim_{s \rightarrow 0} s \cdot F(s)$

PROPRIETÀ
$Z(h_1 u_1(k) + h_2 u_2(k)) = h_1 U_1(z) + h_2 U_2(z)$
$Z(u(k-k_0)) = \begin{cases} z^{-k_0} U(z) + \sum_{i=-k_0}^{-1} z^{-(i+k_0)} u(i) & k_0 > 0 \\ z^{-k_0} U(z) - \sum_{i=0}^{-(k_0+1)} z^{-i} u(i) & k_0 < 0 \end{cases}$
$Z(a^k \cdot u(k)) = U\left(\frac{z}{a}\right)$
$Z(u_1(k) \otimes u_2(k)) = U_1(z) \cdot U_2(z)$
$Z(u(k) - u(k-1)) = \frac{z-1}{z} U(z) - z^{-1} \cdot u(-1)$
$Z\left(\sum_{i=0}^k u(i)\right) = \frac{z}{z-1} \cdot U(z)$
$Z(k \cdot u(k)) = -z \cdot \frac{d U(z)}{d z}$
$u(0) = \lim_{z \rightarrow \infty} U(z)$
$\lim_{z \rightarrow 1} (z-1) \cdot U(z) = \lim_{k \rightarrow +\infty} u(k)$

$d(t)$ (impulso)	1
$H(t)$ (gradino)	$1/s$
$\frac{1}{(n-1)!} t^{n-1}$	$\frac{1}{s^n}$
e^{at}	$\frac{1}{(s-a)}$
$\frac{t^{n-1}}{(n-1)!} \cdot e^{a \cdot t}$	$\frac{1}{(s-a)^n}$
$\sin(\omega t)$	$\frac{\omega}{(s^2 + \omega^2)}$
$\cos(\omega t)$	$\frac{s}{(s^2 + \omega^2)}$
$\sin(\omega t + j)$	$\frac{\sin(j) \cdot s + \cos(j) \cdot \omega}{(s^2 + \omega^2)}$
$e^{at} \sin(\omega t + j)$	$\frac{\sin(j) \cdot (s-a) + \cos(j) \cdot \omega}{(s-a)^2 + \omega^2}$
$\frac{t^{n-1}}{(n-1)!} \sin(\omega t)$	$\frac{\omega}{(s^2 + \omega^2)^n} \cdot \sum_{k=0}^{\frac{n-1}{2}} (-1)^k \binom{n}{2k+1} \cdot \omega^{2k} \cdot s^{n-2k}$
$\frac{t^{n-1}}{(n-1)!} \cos(\omega t)$	$\frac{1}{(s^2 + \omega^2)^n} \cdot \sum_{k=0}^{\frac{n}{2}} (-1)^k \binom{n}{2k} \cdot \omega^{2k} \cdot s^{n-2k}$

$d(k)$ (impulso)	1
$H(k)$ (gradino)	$z/(z-1)$
$\frac{k^n}{n!}$	$\frac{1}{n!} \left(-z \cdot \frac{d}{dz}\right)^n \frac{z}{z-1}$
$\frac{k^{(n)}}{n!}$	$\frac{z}{(z-1)^{n+1}}$
a^k	$\frac{z}{z-a}$
$\frac{k^n}{n!} \cdot a^k$	$\frac{1}{n!} \cdot \left(-z \frac{d}{dz}\right)^n \left(\frac{z}{z-a}\right)$
$\frac{k^{(n)}}{n!} a^{k-n}$	$\frac{z}{(z-a)^{n+1}}$
$\sin(k \omega)$	$\frac{z \cdot \sin \Omega}{z^2 - 2z \cos \Omega + 1}$
$\cos(k \omega)$	$\frac{z^2 - z \cdot \cos \Omega}{z^2 - 2z \cos \Omega + 1}$
$a^k \sin(k \Omega)$	$\frac{z \cdot a \cdot \sin \Omega}{z^2 - 2z \cdot a \cdot \cos \Omega + a^2}$
$a^k \cos(k \Omega)$	$\frac{z^2 - z \cdot a \cdot \cos \Omega}{z^2 - 2z \cdot a \cdot \cos \Omega + a^2}$