

In the table below:

- a and k are arbitrary real numbers
- n is an arbitrary non-negative integer
- $u(t)$ is the step (Heaviside) function
- $g(t)$ and $G(s)$ are Laplace transform pairs

$f(t)$	$F(s)$
1	$\frac{1}{s}$
t	$\frac{1}{s^2}$
t^n	$\frac{n!}{s^{n+1}}$
e^{at}	$\frac{1}{s-a}$
$\cos kt$	$\frac{s}{s^2 + k^2}$
$\sin kt$	$\frac{k}{s^2 + k^2}$
$\cosh kt$	$\frac{s}{s^2 - k^2}$
$\sinh kt$	$\frac{k}{s^2 - k^2}$
$u(t-a)$	$\frac{e^{-as}}{s}$
$f(t)e^{at}$	$F(s-a)$
$f(t-a)u(t-a)$	$F(s)e^{-sa}$
$(-t)^n f(t)$	$F^{(n)}(s)$
$f'(t)$	$sF(s) - f(0)$
$f''(t)$	$s^2 F(s) - sf(0) - f'(0)$
$f^{(n)}(t)$	$s^n F(s) - \sum_{j=0}^{n-1} f^{(j)}(0)s^{n-j}$
$(f * g)(t) = \int_0^t f(\tau)g(t-\tau)d\tau$	$F(s)G(s)$