

Table of Laplace Transforms

$f(t)$	$\mathcal{L}\{f(t)\} = F(s)$
1	$\frac{1}{s}$
e^{at}	$\frac{1}{s-a}$
$t^n, \quad n = 0, 1, 2, \dots$	$\frac{n!}{s^{n+1}}$
$\sin at$	$\frac{a}{s^2 + a^2}$
$\cos at$	$\frac{s}{s^2 + a^2}$
$e^{ct}f(t)$	$F(s-c)$
$u(t-c)f(t-c)$	$e^{-cs}F(s)$
$u(t-c)$	$\frac{e^{-cs}}{s}$
$f^{(n)}(t)$	$s^n F(s) - s^{n-1}f(0) - \dots - f^{(n-1)}(0)$
$\int_0^t f(\tau)g(t-\tau) d\tau$	$F(s)G(s)$