Table of Laplace Transforms

$\mathbf{f(t)}$	$\mathcal{L}[\mathbf{f(t)}] = \mathbf{F(s)}$	
1	$\frac{1}{s}$	(1)
$t^n \ (n = 0, 1, 2, \dots)$	$\frac{n!}{s^{n+1}}$	(2)
e^{at}	$\frac{1}{s-a}$	(3)
$\sin kt$	$\frac{k}{s^2 + k^2}$	(4)
$\cos kt$	$\frac{s}{s^2 + k^2}$	(5)
$\sinh kt$	$\frac{k}{s^2 - k^2}$	(6)
$\cosh kt$	$\frac{s}{s^2 - k^2}$	(7)
$f'(t)$	$sF(s) - f(0)$	(8)
$f''(t)$	$s^2F(s) - sf(0) - f'(0)$	(9)
$f^n(t)$	$s^nF(s) - s^{(n-1)}f(0) - \cdots - f^{(n-1)}(0)$	(10)
$e^{at}f(t)$	$F(s-a)$	(11)
$\mathcal{U}(t-a)$	$\frac{e^{-as}}{s}$	(12)
$f(t-a)\mathcal{U}(t-a)$	$e^{-as}F(s)$	(13)
$t^nf(t)$	$(-1)^n\frac{d^nF(s)}{ds^n}$	(14)
$(f * g)(t) := \int_0^t f(\tau)g(t-\tau)d\tau$	$F(s)G(s)$	(15)
$\int_0^t f(\tau)d\tau$	$\frac{F(s)}{s}$	(16)
$f(t)$, periodic with period T	$\frac{1}{1-e^{-sT}}\int_0^T e^{-st}f(t)dt$	(17)
$\delta(t)$	1	(18)
$\delta(t-t_0)$	e^{-st_0}	(19)