Table of Laplace Transforms

$f(t)$	$\mathscr{L}\{f(t)\} = F(s) = \int_0^\infty f(t)e^{-st}dt$
1	$\frac{1}{s}$
t^n	$\frac{n!}{s^{n+1}}, \quad n = 0,\ 1,\ 2,\ 3,\ \cdots \quad$ Note: $0! = 1$
e^{at}	$\frac{1}{s-a}$
$\cos kt$	$\frac{s}{s^2+k^2}$
$\sin kt$	$\frac{k}{s^2+k^2}$
$\cosh kt$	$\frac{s}{s^2-k^2}$
$\sinh kt$	$\frac{k}{s^2-k^2}$
$\frac{\mathrm{d}f}{\mathrm{d}t}$	$sF(s) - f(0)$
$\frac{\mathrm{d}^2f}{\mathrm{d}t^2}$	$s^2F(s) - sf(0) - f'(0)$
$\frac{\mathrm{d}^nf}{\mathrm{d}t^n}$	$s^nF(s) - s^{n-1}f(0) - s^{n-2}f'(0) - \cdots - f^{(n-1)}(0)$
$\mathrm{e}^{at}f(t)$	$F(s-a)$
$f(t-a)\mathscr{U}(t-a)$	$\mathrm{e}^{-as}F(s)$