Table of Laplace Transforms

$f(t)$	$F(s) = \mathcal{L}(f) = \int_0^\infty e^{-st} f(t) \, dt$
$f'(t)$	$s\mathcal{L}(f) - f(0)$
$f''(t)$	$s^2 \mathcal{L}(f) - sf(0) - f'(0)$
$\int_0^t f(\tau) \, d\tau$	$\dfrac{1}{s} F(s)$
$\int_0^t f(\tau) g(t - \tau) \, d\tau$	$F(s)G(s)$
$e^{at} f(t)$	$F(s - a)$
$u_a(t)$	$\dfrac{e^{-as}}{s}$
$f(t - a) u_a(t)$	$e^{-as} F(s)$
$\delta(t - a)$	e^{-as}
$t f(t)$	$-F'(s)$
$t^n f(t)$	$(-1)^n F^{(n)}(s)$
1	$\dfrac{1}{s}$
t	$\dfrac{1}{s^2}$
t^n	$\dfrac{n!}{s^{n+1}}$
e^{at}	$\dfrac{1}{s - a}$
$t e^{at}$	$\dfrac{1}{(s - a)^2}$
$\sin \omega t$	$\dfrac{\omega}{s^2 + \omega^2}$
$\cos \omega t$	$\dfrac{s}{s^2 + \omega^2}$
$\sinh at$	$\dfrac{a}{s^2 - a^2}$
$\cosh at$	$\dfrac{s}{s^2 - a^2}$

Table of Laplace Transforms (*continued*)

$f(t)$	$F(s) = \mathcal{L}(f) = \int_0^\infty e^{-st} f(t)\, dt$
$e^{at} \sin \omega t$	$\dfrac{\omega}{(s-a)^2 + \omega^2}$
$e^{at} \cos \omega t$	$\dfrac{s-a}{(s-a)^2 + \omega^2}$
$t \sin \omega t$	$\dfrac{2\omega s}{(s^2 + \omega^2)^2}$
$t \cos \omega t$	$\dfrac{s^2 - \omega^2}{(s^2 + \omega^2)^2}$
$\sin \omega t + \omega t \cos \omega t$	$\dfrac{2\omega s^2}{(s^2 + \omega^2)^2}$
$\sin \omega t - \omega t \cos \omega t$	$\dfrac{2\omega^3}{(s^2 + \omega^2)^2}$