Table of Laplace Transforms

$f(t) = \mathcal{L}^{-1}\{F(s)\}$	$F(s) = \mathcal{L}\{f(t)\} = \int_0^\infty e^{-st} f(t)dt$
1	$\frac{1}{s},\ s > 0$
e^{at}	$\frac{1}{s-a},\ s > a$
$t^n, \quad n$ integer > 0	$\frac{n!}{s^{n+1}},\ s > 0$
$t^p, \quad p > -1$	$\frac{\Gamma(p+1)}{s^{p+1}},\ s > 0$
$\sin(bt)$	$\frac{b}{s^2+b^2},\ s > 0$
$\cos(bt)$	$\frac{s}{s^2+b^2},\ s > 0$
$\sinh(bt)$	$\frac{b}{s^2-b^2},\ s > \lvert b\rvert$
$\cosh(bt)$	$\frac{s}{s^2-b^2},\ s > \lvert b\rvert$
$e^{at}\sin(bt)$	$\frac{b}{(s-a)^2+b^2},\ s > a$
$e^{at}\cos(bt)$	$\frac{s-a}{(s-a)^2+b^2},\ s > a$
$e^{at}f(t)$	$F(s-a),\ s > a$
$(-t)^n f(t), \quad n$ integer > 0	$F^{(n)}(s)$
$f^{(n)}(t)$	$s^n F(s) - s^{n-1}f(0) - \ldots - f^{(n-1)}(0)$
$f(ct)$	$\frac{1}{c}F\left(\frac{s}{c}\right),\ c > 0$
$u_c(t)$	$\frac{e^{-cs}}{s},\ c \geq 0$
$u_c(t)f(t-c)$	$e^{-cs}F(s),\ c \geq 0$
$\delta(t-c)$	$e^{-cs},\ c \geq 0$
$\int_0^t f(t-\tau)g(\tau)d\tau$	$F(s)G(s)$