TABLE OF LAPLACE TRANSFORMS

	$f(t) = \mathscr{L}^{-1}\{F(s)\}$ a, b and c real	$F(s) = \int_0^\infty f(t)e^{-st}dt$	
1.	1	$\frac{1}{s}$,	$\mathrm{Re}\{s\} > 0$
2.	e^{at}	$\frac{1}{s-a}$,	$\mathrm{Re}\{s\} > a$
3.	t^n, n is a positive integer	$\frac{n!}{s^{n+1}}$,	$\mathrm{Re}\{s\} > 0$
4.	$t^p, p > -1$	$\frac{\Gamma(p+1)}{s^{p+1}}$,	$\mathrm{Re}\{s\} > 0$
5.	$\sin(at)$	$\frac{a}{s^2+a^2}$,	$\mathrm{Re}\{s\} > 0$
6.	$\cos(at)$	$\frac{s}{s^2+a^2}$,	$\mathrm{Re}\{s\} > 0$
7.	$\sinh(at)$	$\frac{a}{s^2-a^2}$,	$\mathrm{Re}\{s\} > \lvert a\rvert$
8.	$\cosh(at)$	$\frac{s}{s^2-a^2}$,	$\mathrm{Re}\{s\} > \lvert a\rvert$
5.	$e^{at}\sin(bt)$	$\frac{b}{(s-a)^2+b^2}$,	$\mathrm{Re}\{s\} > a$
6.	$e^{at}\cos(bt)$	$\frac{(s-a)}{(s-a)^2+b^2}$,	$\mathrm{Re}\{s\} > a$
11.	$t^n e^{at}$, n is a positive integer	$\frac{n!}{(s-a)^{n+1}}$,	$\mathrm{Re}\{s\} > a$
12.	$u_c(t)$	$e^{-cs}\left(\frac{1}{s}\right)$	$\mathrm{Re}\{s\} > 0$
13.	$u_c(t)f(t-c)$	$e^{-cs}F(s)$	
14.	$e^{ct}f(t)$	$F(s-c)$	
15.	$f(ct)$	$\frac{1}{c}F\left(\frac{s}{c}\right)$	
16.	$\int_0^t f(t-\tau)g(\tau)d\tau$	$F(s)G(s)$	
17.	$\delta(t-c)$	e^{-cs}	
18.	$f^{(n)}(t)$	$s^nF(s) - s^{n-1}f(0) - .... - f^{(n-1)}(0)$	
19.	$(-t)^n f(t)$	$F^{(n)}(s)$	