

SHORT TABLE OF LAPLACE TRANSFORMS

$f(t)$	$\mathcal{L}\{f(t)\} = F(s)$
1. 1	$\frac{1}{s}$
2. e^{at}	$\frac{1}{s-a}$
3. t^n	$\frac{n!}{s^{n+1}}, \quad n = 1, 2, 3, \dots$
4. $\sin(kt)$	$\frac{k}{s^2 + k^2}$
5. $\cos(kt)$	$\frac{s}{s^2 + k^2}$
6. $f'(t)$	$sF(s) - f(0)$
7. $f''(t)$	$s^2F(s) - sf(0) - f'(0)$
8. $\delta(t-t_0)$	e^{-st_0}
9. $e^{at}f(t)$	$F(s-a)$
10. $U(t-a)$	$\frac{e^{-as}}{s}$
11. $f(t-a)U(t-a)$	$e^{-as}F(s)$
12. $\int_0^t f(\tau)g(t-\tau)d\tau$	$F(s)G(s)$