Table 9.2: Laplace transforms for some common signals.

Signal $u(t)$	Laplace transform $U(s)$	Signal $u(t)$	Laplace transform $U(s)$
$S(t)$ [unit step]	$\dfrac{1}{s}$	$\delta(t)$ [impulse]	1
$\sin(at)$	$\dfrac{a}{s^2+a^2}$	$\cos(at)$	$\dfrac{s}{s^2+a^2}$
$e^{-\alpha t}\sin(at)$	$\dfrac{a}{(s+\alpha)^2+a^2}$	$e^{-\alpha t}\cos(at)$	$\dfrac{s+\alpha}{(s+\alpha)^2+a^2}$