

	$Y(s) = \mathcal{L}(y)$	$y(t) = \mathcal{L}^{-1}(Y)$
1.	$aY(s) + bV(s)$	$ay(t) + bv(t)$
2.	$W(s)Y(s)$	$\int_0^t w(t-r)y(r)dr$
3.	$sY(s)$	$y'(t) + y(0)$
4.	$\frac{1}{s} Y(s)$	$\int_0^t y(r)dr$
5.	$e^{-as}Y(s)$	$y(t-a)H(t-a)$ for $a > 0$
6.	$Y(s+a)$	$e^{-at}y(t)$
7.	$\frac{1}{s} e^{-as}$	$H(t-a)$ for $a > 0$
8.	$\frac{1}{s+a}$	e^{-at}
9.	$\frac{n!}{(s+a)^{n+1}}$	$t^n e^{-at}$ for $n = 1, 2, 3, \dots$
10.	$\frac{\omega}{(s+a)^2 + \omega^2}$	$e^{-at} \sin(\omega t)$
11.	$\frac{s+a}{(s+a)^2 + \omega^2}$	$e^{-at} \cos(\omega t)$
12.	$\frac{cs+d}{(s-s_1)(s-s_2)}$	$\begin{aligned} & \left[c + (ac+d)t \right] e^{at} \quad \text{if } s_1 = s_2 = a \\ & \frac{1}{a-b} \left[(ac+d)e^{at} - (bc+d)e^{bt} \right] \quad \text{if } \begin{matrix} s_1 = a \\ s_2 = b \end{matrix} \\ & e^{at} \left[c \cos(bt) + \frac{ac+d}{b} \sin(bt) \right] \quad \text{if } \begin{matrix} s_1 = a + ib \\ s_2 = a - ib \end{matrix} \end{aligned}$
13.	e^{-as}	$\delta(t-a)$ for $a > 0$
14.	$\frac{1}{(s+b)^n} e^{-as}$	$\frac{1}{(n-1)!} (t-a)^{n-1} e^{-b(t-a)} H(t-a)$ for $\begin{matrix} a > 0, \\ n = 1, 2, 3, \dots \end{matrix}$
15.	$\frac{1}{s} e^{-as} Y(s)$	$H(t-a) \int_0^{t-a} y(r)dr$ for $a > 0$

Table 6.1. Laplace and inverse Laplace transforms. The function $H(x)$ is defined in (6.25), and $\delta(t)$ is defined in Section 6.7.1.