

	$F(s)$	$f(t), t = 0$
1.	1	$\delta(t_0)$ the unit impulse at $t = t_0$
2.	$1/s$	1, unit step
3.	$n!/s^{n+1}$	t^n
4.	$1/(s+a)$	e^{-at}
5.	$\frac{1}{(s+a)^n}$	$\frac{1}{(n-1)!} t^{n-1} e^{-at}$
6.	$\frac{a}{s(s+a)}$	$1 - e^{-at}$
7.	$\frac{1}{(s+a)(s+b)}$	$\frac{1}{(b-a)} (e^{-at} - e^{-bt})$
8.	$\frac{(s+\alpha)}{(s+a)(s+b)}$	$\frac{1}{(b-a)} [(\alpha-a)e^{-at} - (\alpha-b)e^{-bt}]$
9.	$\frac{ab}{s(s+a)(s+b)}$	$1 - \frac{b}{(b-a)} e^{-at} + \frac{a}{(b-a)} e^{-bt}$
10.	$\frac{1}{(s+a)(s+b)(s+c)}$	$\frac{e^{-at}}{(b-a)(c-a)} + \frac{e^{-bt}}{(c-b)(a-b)} + \frac{e^{-ct}}{(a-c)(b-c)}$
11.	$\frac{s+\alpha}{(s+a)(s+b)(s+c)}$	$\frac{(\alpha-a)e^{-at}}{(b-a)(c-a)} + \frac{(\alpha-b)e^{-bt}}{(c-b)(a-b)} + \frac{(\alpha-c)e^{-ct}}{(a-c)(b-c)}$
12.	$\frac{ab(s+\alpha)}{s(s+a)(s+b)}$	$\alpha - \left(\frac{b(\alpha-a)}{(b-a)} \right) e^{-at} + \left(\frac{a(\alpha-b)}{(b-a)} \right) e^{-bt}$
13.	$\omega/(s^2 + \omega^2)$	$\sin(\omega t)$
14.	$s/(s^2 + \omega^2)$	$\cos(\omega t)$
15.	$\frac{s+\alpha}{s^2 + \omega^2}$	$\left(\frac{\sqrt{\alpha^2 + \omega^2}}{\omega} \right) \sin(\omega t + \phi), \phi = \tan^{-1}(\omega/\alpha)$
16.	$\frac{\omega}{(s+a)^2 + \omega^2}$	$e^{-at} \sin(\omega t)$
17.	$\frac{(s+a)}{(s+a)^2 + \omega^2}$	$e^{-at} \cos(\omega t)$
18.	$\frac{s+\alpha}{(s+a)^2 + \omega^2}$	$\frac{1}{\omega} \sqrt{(\alpha-a)^2 + \omega^2} e^{-at} \sin(\omega t + \phi), \phi = \tan^{-1}\left(\frac{\omega}{\alpha-a}\right)$
19.	$\frac{\omega_n^2}{s^2 + 2\zeta\omega_n s + \omega_n^2}$	$\frac{\omega_n}{\sqrt{1-\zeta^2}} e^{-(\zeta\omega_n t)} \sin\left(\omega_n \sqrt{1-\zeta^2} t\right), \zeta < 1$
20.	$\frac{1}{s((s+a)^2 + \omega^2)}$	$\left(\frac{1}{a^2 + \omega^2} \right) + \left(\frac{1}{\omega\sqrt{a^2 + \omega^2}} \right) e^{-at} \sin(\omega t - \phi), \phi = \tan^{-1}(\omega/-a)$
21.	$\frac{\omega_n^2}{s(s^2 + 2\zeta\omega_n s + \omega_n^2)}$	$1 - \left(\frac{1}{\sqrt{1-\zeta^2}} \right) e^{-(\zeta\omega_n t)} \sin\left(\left(\omega_n \sqrt{1-\zeta^2}\right)t + \phi\right), \phi = \cos^{-1}(\zeta), \zeta < 1$
22.	$\frac{(s+\alpha)}{s((s+a)^2 + \omega^2)}$	$\left(\frac{\alpha}{a^2 + \omega^2} \right) + \frac{1}{\omega} \sqrt{\frac{(\alpha-a)^2 + \omega^2}{a^2 + \omega^2}} e^{-at} \sin(\omega t + \phi), \phi = \tan^{-1}\left(\frac{\omega}{\alpha-a}\right) - \tan^{-1}\left(\frac{\omega}{-a}\right)$
23.	$\frac{1}{(s+c)((s+a)^2 + \omega^2)}$	$\left(\frac{e^{-ct}}{(c-a)^2 + \omega^2} \right) - \left(\frac{e^{-at} \sin(\omega t + \phi)}{\omega\sqrt{(c-a)^2 + \omega^2}} \right), \phi = \tan^{-1}\left(\frac{\omega}{a-c}\right)$