

\mathcal{F}	\mathcal{L}	\mathcal{Z}
$F(\omega) = \int_{-\infty}^{\infty} f(t) \mathrm{e}^{-i\omega t} \mathrm{d}t$	$F(s) = \int_0^{\infty} f(t) \mathrm{e}^{-st} \mathrm{d}t$	$X(z) = \sum_{n=0}^{\infty} x[n] z^{-n}$
$f(t) = \frac{1}{2\pi} \int_{-\infty}^{\infty} F(\omega) \mathrm{e}^{i\omega t} \mathrm{d}\omega$	$f(t) = \frac{1}{2\pi i} \int_{\mathrm{Br}} F(s) \mathrm{e}^{st} \mathrm{d}s$	$x[n] = \frac{1}{2\pi i} \oint_C X(z) z^{n-1} \mathrm{d}z$
$\mathcal{F}[f(t)] = F(\omega)$	$\mathcal{L}[f(t)] = F(s)$	$\mathcal{Z}[x[n]] = X(z)$
$\mathcal{F}[af(t) + bg(t)] = aF(\omega) + bG(\omega)$	$\mathcal{L}[af(t) + bg(t)] = aF(s) + bG(s)$	$\mathcal{Z}[ax[n] + by[n]] = aX(z) + bY(z)$
$\mathcal{F}[f(t - t_0)] = F(\omega) \mathrm{e}^{-i\omega t_0}$	$\mathcal{L}[f(t - t_0)] = F(s) \mathrm{e}^{-t_0 s}$	$\mathcal{Z}[x[n - n_0]] = X(z) z^{-n_0}$
$\mathcal{F}[f(t) \mathrm{e}^{i\omega_0 t}] = F(\omega - \omega_0)$	$\mathcal{L}[f(t) \mathrm{e}^{s_0 t}] = F(s - s_0)$	$\mathcal{Z}[x[n] z_0^n] = X(z/z_0)$
$\mathcal{F}[f(at)] = \frac{1}{ a } F\left(\frac{\omega}{a}\right)$	$\mathcal{L}[f(at)] = \frac{1}{ a } F\left(\frac{s}{a}\right)$	
$\mathcal{F}[F(t)] = 2\pi f(-\omega)$		
$\mathcal{F}\left[\frac{\mathrm{d}^n f(t)}{\mathrm{d}t^n}\right] = (i\omega)^n F(\omega)$	$\mathcal{L}\left[\frac{\mathrm{d}^n f(t)}{\mathrm{d}t^n}\right] = s^n F(s) - \sum_{k=0}^{n-1} s^{n-k-1} f^{(k)}(+0)$	$\mathcal{Z}[x[n] - x[n-1]] = \frac{X(z)}{1 - z^{-1}}$
$\mathcal{F}[t^n f(t)] = i^n \frac{\mathrm{d}^n F(\omega)}{\mathrm{d}\omega^n}$	$\mathcal{L}[t^n f(t)] = (-1)^n \frac{\mathrm{d}^n F(s)}{\mathrm{d}s^n}$	$\mathcal{Z}[nx[n]] = -z \frac{\mathrm{d}X(z)}{\mathrm{d}z}$
$\mathcal{F}[f(t) * g(t)] = F(\omega) G(\omega)$	$\mathcal{L}[f(t) * g(t)] = F(s) G(s)$	$\mathcal{Z}[x[n] * y[n]] = X(z) Y(z)$
$\mathcal{F}[f(t)g(t)] = \frac{1}{2\pi} F(\omega) * G(\omega)$	$\mathcal{L}[f(t)g(t)] = \frac{1}{2\pi i} \lim_{T \rightarrow \infty} \int_{c-iT}^{c+iT} F(\sigma) G(s - \sigma) \mathrm{d}\sigma$	$\mathcal{Z}[x[n]y[n]] = \frac{1}{2\pi i} \oint_C X(\sigma) Y(z/\sigma) \sigma^{-1} \mathrm{d}\sigma$
$f(t) * g(t) = \int_{-\infty}^{\infty} f(\tau) g(t - \tau) \mathrm{d}\tau$	$f(t) * g(t) = \int_0^t f(\tau) g(t - \tau) \mathrm{d}\tau$	$x[n] * y[n] = \sum_{m=-\infty}^{\infty} x[m] y[n - m]$
$\mathcal{F}[\delta(t)] = 1$	$\mathcal{L}[\delta(t)] = 1$	$\mathcal{Z}[\delta[n]] = 1$
$\mathcal{F}[1] = 2\pi \delta(\omega)$	$\mathcal{L}[1] = \frac{1}{s}$	$\mathcal{Z}[1] = \frac{1}{1 - z^{-1}}$
$\mathcal{F}[t] = -2\pi i \frac{\delta(\omega)}{\omega}$	$\mathcal{L}[t] = \frac{1}{s^2}$	$\mathcal{Z}[nT] = \frac{Tz^{-1}}{(1 - z^{-1})^2}$
$\mathcal{F}[t^k] = 2\pi i^k \delta^{(k)}(\omega)$	$\mathcal{L}[t^k] = \frac{k!}{s^{k+1}}$	$\mathcal{Z}[(nT)^k] = \left[\frac{\mathrm{d}^k}{\mathrm{d}s^k} \frac{1}{(1 - z^{-1} \mathrm{e}^{sT})} \right] \bigg _{s=0}$
$\mathcal{F}[\mathrm{e}^{i\omega_0 t}] = 2\pi \delta(\omega - \omega_0)$	$\mathcal{L}[\mathrm{e}^{s_0 t}] = \frac{1}{s - s_0}$	$\mathcal{Z}[\mathrm{e}^{\alpha n T}] = \frac{1}{1 - z^{-1} \mathrm{e}^{\alpha T}}$
$\mathcal{F}[\sin \beta t] = -i\pi (\delta(\omega - \beta) - \delta(\omega + \beta))$	$\mathcal{L}[\sin \beta t] = \frac{\beta}{s^2 + \beta^2}$	$\mathcal{Z}[\sin \beta n T] = \frac{z^{-1} \sin \beta T}{1 - 2z^{-1} \cos \beta T + z^{-2}}$
$\mathcal{F}[\cos \beta t] = \pi (\delta(\omega - \beta) + \delta(\omega + \beta))$	$\mathcal{L}[\cos \beta t] = \frac{s}{s^2 + \beta^2}$	$\mathcal{Z}[\cos \beta n T] = \frac{1 - z^{-1} \cos \beta T}{1 - 2z^{-1} \cos \beta T + z^{-2}}$
$\mathcal{F}[\Pi(t/T)] = T \sin \frac{\omega T}{2} \bigg/ \frac{\omega T}{2}$	$\mathcal{L}[\Pi_{T_1}^{T_2}(t)] = \frac{1}{s} (\mathrm{e}^{-sT_1} - \mathrm{e}^{-sT_2})$	