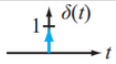
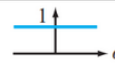
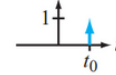
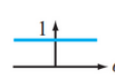
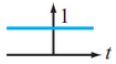
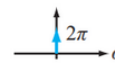
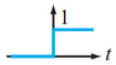
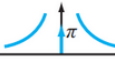

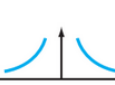
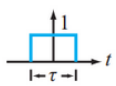
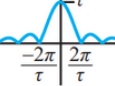
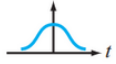
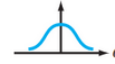
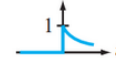
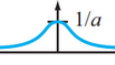

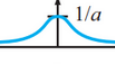
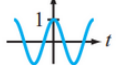
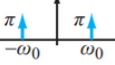
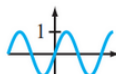
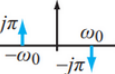

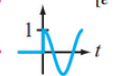


$x(t)$	\longleftrightarrow $X(\omega) = \mathcal{F}[x(t)]$	$ X(\omega) $
1. 	$\delta(t) \longleftrightarrow 1$	
1a. 	$\delta(t - t_0) \longleftrightarrow e^{-j\omega t_0}$	
2. 	$1 \longleftrightarrow 2\pi \delta(\omega)$	
3. 	$u(t) \longleftrightarrow \pi \delta(\omega) + 1/j\omega$	
4. 	$\text{sgn}(t) \longleftrightarrow 2/j\omega$	
5. 	$\text{rect}(t/\tau) \longleftrightarrow \tau \text{sinc}(\omega\tau/2)$	
6. 	$\frac{e^{-t^2/(2\sigma^2)}}{\sqrt{2\pi\sigma^2}} \longleftrightarrow e^{-\omega^2\sigma^2/2}$	
7a. 	$e^{-at} u(t) \longleftrightarrow 1/(a + j\omega)$	
7b. 	$e^{at} u(-t) \longleftrightarrow 1/(a - j\omega)$	
8. 	$\cos \omega_0 t \longleftrightarrow \pi[\delta(\omega - \omega_0) + \delta(\omega + \omega_0)]$	
9. 	$\sin \omega_0 t \longleftrightarrow j\pi[\delta(\omega + \omega_0) - \delta(\omega - \omega_0)]$	
10. $e^{j\omega_0 t}$	$\longleftrightarrow 2\pi \delta(\omega - \omega_0)$	
11. $t e^{-at} u(t)$	$\longleftrightarrow 1/(a + j\omega)^2$	
12a. $[e^{-at} \sin \omega_0 t] u(t)$	$\longleftrightarrow \omega_0 / [(a + j\omega)^2 + \omega_0^2]$	
12b. 	$[\sin \omega_0 t] u(t) \longleftrightarrow (\pi/2j)[\delta(\omega - \omega_0) - \delta(\omega + \omega_0)] + [\omega_0^2 / (\omega_0^2 - \omega^2)]$	
13a. $[e^{-at} \cos \omega_0 t] u(t)$	$\longleftrightarrow (a + j\omega) / [(a + j\omega)^2 + \omega_0^2]$	
13b. 	$[\cos \omega_0 t] u(t) \longleftrightarrow (\pi/2)[\delta(\omega - \omega_0) + \delta(\omega + \omega_0)] + [j\omega / (\omega_0^2 - \omega^2)]$	

Note: formulas assume e^{-at} exponent coefficient $a \geq 0$.

$$\frac{B \text{sinc}(Bt)}{\pi} \longleftrightarrow \text{Rect}\left(\frac{\omega}{2B}\right) \quad \text{tri}\left(\frac{t}{\tau}\right) \longleftrightarrow \tau \text{sinc}^2\left(\frac{\omega\tau}{2}\right) \quad e^{-a|t|} \longleftrightarrow \frac{2a}{a^2 + \omega^2}$$

$a > 0$