Basic Fourier Transform Pairs

Time Domain $x(t) = \frac{1}{2\pi}\int_{-\infty}^{\infty} X(\Omega)e^{j\Omega t}d\Omega$	Frequency Domain $X(\Omega) = \int_{-\infty}^{\infty} x(t)e^{-j\Omega t}dt$
$x(t) = \begin{cases} 1, & \lvert t\rvert < T \\ 0, & \text{otherwise} \end{cases}$	$X(\Omega) = \frac{2\sin(\Omega T)}{\Omega}$
$x(t) = \frac{1}{\pi t}\sin(Wt)$	$X(\Omega) = \begin{cases} 1, & \lvert\Omega\rvert < W \\ 0, & \text{otherwise} \end{cases}$
$x(t) = \delta(t)$	$X(\Omega) = 1$
$x(t) = 1$	$X(\Omega) = 2\pi\delta(\Omega)$
$x(t) = u(t)$	$X(\Omega) = \frac{1}{j\Omega} + \pi\delta(\Omega)$
$x(t) = e^{-at}u(t), \quad a > 0$	$X(\Omega) = \frac{1}{a+j\Omega}$
$x(t) = te^{-at}u(t), \quad a > 0$	$X(\Omega) = \frac{1}{(a+j\Omega)^2}$
$x(t) = e^{-a\lvert t\rvert}, \quad a > 0$	$X(\Omega) = \frac{2a}{a^2+\Omega^2}$
$x(t) = \frac{1}{\sqrt{2\pi}}e^{-\frac{t^2}{2}}$	$X(\Omega) = e^{-\frac{\Omega^2}{2}}$