

Fourier transform table

$u(x)$	$\hat{u}(\xi)$
$\delta(x - a)$	$e^{ia\xi}$
e^{ikx}	$2\pi\delta(k + \xi)$
e^{-ax^2}	$\sqrt{\frac{\pi}{a}}e^{-\frac{\xi^2}{4a}}$
$e^{-a x }$	$\frac{2a}{a^2 + \xi^2}$
$H(a - x)$	$\frac{2\sin(a\xi)}{\xi}$
$u^{(n)}(x)$	$(-i\xi)^n \hat{u}(\xi)$
$u * v$	$\hat{u}(\xi)\hat{v}(\xi)$

where $H(x) = \begin{cases} 1 & x \geq 0 \\ 0 & \text{otherwise} \end{cases}$