f(t)	F(w)
af(t) + bg(t)	aF(w) + bG(w)
f(t-a)	$e^{-2\pi jaw}F(w)$
c(1) jat	
$f(t)e^{jat}$	$F(w-\frac{a}{2\pi})$
$\int f(at)$	$\frac{1}{ a }F(\frac{w}{a})$
J (ac)	
$\frac{d^n t f(t)}{dt^n}$	$(2\pi jw)^n F(w)$
$t^n f(t)$	$(\frac{j}{2\pi})^n \frac{d^n w F(w)}{dw^n}$
$(f \star g)(t)$	F(w)G(w)
$f(t) \cos(\alpha t)$	$1(E(x_1, x_1, x_2) + E(x_1, x_2))$
f(t)cos(at)	$\frac{1}{2}(F(w-\frac{a}{2\pi})+F(w+\frac{a}{2\pi}))$
f(t)sin(at)	$\left  \frac{1}{2j} \left( F\left( w - \frac{a}{2\pi} \right) - F\left( w + \frac{a}{2\pi} \right) \right) \right $
3 (1) 111 (11)	$2j$ ( $2\pi$ ) ( $2\pi$ )
rect(at)	$\frac{1}{ a }sinc(w-\frac{a}{2\pi})$
sinc(at)	$\frac{1}{ a }rect(w-\frac{a}{2\pi})$
$e^{-at}u(t)$	$\frac{1}{a-2\pi jw}$
1	$\delta(w)$
$\delta(t)$	
$e^{jat}$	$\delta(w - \frac{a}{2\pi})$
cos(at)	$\frac{1}{2}(\delta(w-\frac{a}{2\pi})+\delta(w+\frac{a}{2\pi}))$
sin(at)	$\frac{1}{2j}(\delta(w-\frac{a}{2\pi})-\delta(w+\frac{a}{2\pi}))$
$\frac{1}{t}$	$-j\pi u(w)$

For the LaTeXfile see https://github.com/joey-kilgore/playground and look for the practiceTransforms folder