FOURIER TRANSFORM PAIRS for the DTFT

The index-domain signal is $x[n]$ for $-\infty < n < \infty$;
and the frequency-domain values are $X(e^{j\omega})$ for $-\pi \le \omega \le \pi$.

Signal: $x[n]$	Fourier Transform (DTFT): $X(e^{j\omega})$
$\delta[n]$	1
$\delta[n-n_\circ]$	$e^{-j\omega n_\circ}$
$1 \qquad (-\infty < n < \infty)$	$\sum_{r=-\infty}^{\infty} 2\pi\,\delta(\omega+2\pi r)$
$e^{j\omega_\circ n} \qquad (-\infty < n < \infty)$	$\sum_{r=-\infty}^{\infty} 2\pi\,\delta(\omega-\omega_\circ+2\pi r)$
$\cos(\omega_\circ n+\phi) \qquad (-\infty < n < \infty)$	$\pi \sum_{r=-\infty}^{\infty} \left[\, e^{j\phi}\,\delta(\omega-\omega_\circ+2\pi r) + e^{-j\phi}\,\delta(\omega+\omega_\circ+2\pi r)\,\right]$
$\sin(\omega_\circ n+\phi) \qquad (-\infty < n < \infty)$	$\pi \sum_{r=-\infty}^{\infty} \left[\, -j\,e^{j\phi}\,\delta(\omega-\omega_\circ+2\pi r) + j\,e^{-j\phi}\,\delta(\omega+\omega_\circ+2\pi r)\,\right]$
$\dfrac{\sin\omega_c n}{\pi n} =$ "sinc" function	$X(e^{j\omega}) = \begin{cases} 1, & \lvert\omega\rvert \le \omega_c \\ 0, & \omega_c < \lvert\omega\rvert \le \pi \end{cases}$
$x[n] = \begin{cases} 1, & 0 \le n < L \\ 0, & \text{otherwise} \end{cases}$ NOTE: pulse length is L	$e^{-j\omega(L-1)/2}\,\dfrac{\sin(\omega L/2)}{\sin(\omega/2)} = e^{-j\omega(L-1)/2}\,\text{Dirichlet}(\omega, L)$
$u[n]$	$\dfrac{1}{1-e^{-j\omega}} + \sum_{r=-\infty}^{\infty} \pi\,\delta(\omega+2\pi r)$
$a^n\,u[n] \qquad (\lvert a\rvert < 1)$	$\dfrac{1}{1-ae^{-j\omega}}$
$(n+1)\,a^n\,u[n] \qquad (\lvert a\rvert < 1)$	$\dfrac{1}{(1-ae^{-j\omega})^2}$
$\dfrac{r^n \sin\omega_\circ(n+1)}{\sin\omega_\circ}\,u[n] \qquad (\lvert r\rvert < 1)$	$\dfrac{1}{1-2r\cos\omega_\circ\,e^{-j\omega}+r^2\,e^{-j2\omega}}$
$\sum_{\ell=-\infty}^{\infty} \delta[n-\ell P]$	$\dfrac{2\pi}{P} \sum_{k=-\infty}^{\infty} \delta(\omega-2\pi k/P)$