Common Laplace Transforms				
Signal	**Laplace Transform**		**Signal**	**Laplace Transform**
$\delta(t)$	1		$\cos(bt)u(t)$	$\frac{s}{s^2+b^2}$
$\delta(t-T)$	$e^{-sT}\ (T>0)$		$\sin(bt)u(t)$	$\frac{b}{s^2+b^2}$
$u(t)$	$\frac{1}{s}$		$t\cos(bt)u(t)$	$\frac{s^2-b^2}{(s^2+b^2)^2}$
$tu(t)$	$\frac{1}{s^2}$		$t\sin(bt)u(t)$	$\frac{2bs}{(s^2+b^2)^2}$
$t^n u(t)$	$\frac{n!}{s^{n+1}}\ \ n=1,2\ldots$		$e^{-(at)}\cos(bt)u(t)$	$\frac{s+a}{(s+a)^2+b^2}$
$e^{-(\lambda t)}u(t)$	$\frac{1}{s+\lambda}$		$e^{-(at)}\sin(bt)u(t)$	$\frac{b}{(s+a)^2+b^2}$
$te^{-(\lambda t)}u(t)$	$\frac{1}{(s+\lambda)^2}$		$te^{-(at)}\cos(bt)u(t)$	$\frac{(s+a)^2-b^2}{\left[(s+a)^2+b^2\right]^2}$
$t^n e^{-(\lambda t)}u(t)$	$\frac{n!}{(s+\lambda)^{n+1}}\ \ n=1,2\ldots$		$te^{-(at)}\sin(bt)u(t)$	$\frac{2b(s+a)}{\left[(s+a)^2+b^2\right]^2}$

Common z-Transforms				
Signal	**z-Transform**		**Signal**	**z-Transform**
$\delta[n]$	1		$na^n u[n]$	$\frac{az}{(z-a)^2}$
$\delta[n-q]$	$\frac{1}{z^q}\quad q=1,2,\ldots$		$n^2 a^n u[n]$	$\frac{az(z+a)}{(z-a)^3}$
$u[n]$	$\frac{z}{z-1}$		$n(n+1)a^n u[n]$	$\frac{2az^2}{(z-a)^3}$
$u[n]$ - $u[n-q]$	$\frac{z^q-1}{z^{q-1}(z-1)}\quad q=1,2,\ldots$		$(\cos\Omega n)u[n]$	$\frac{z^2-(\cos\Omega)z}{z^2-(2\cos\Omega)z+1}$
$a^n u[n]$	$\frac{z}{z-a}$		$(\sin\Omega n)u[n]$	$\frac{(\sin\Omega)z}{z^2-(2\cos\Omega)z+1}$
$nu[n]$	$\frac{z}{(z-1)^2}$		$a^n(\cos\Omega n)u[n]$	$\frac{z^2-[a\cos\Omega]z}{z^2-(2a\cos\Omega)z+a^2}$
$(n+1)u[n]$	$\frac{z^2}{(z-1)^2}$		$a^n(\sin\Omega n)u[n]$	$\frac{(a\sin\Omega)z}{z^2-(2a\cos\Omega)z+a^2}$
$n^2 u[n]$	$\frac{z(z+1)}{(z-1)^3}$			