1. Find the DTFT of

   a) $x[n] = 6\delta[n] - 2\delta[n-2] + \delta[n+1]$

   b) $y[n] = 8e^{-j\frac{\pi}{2}n}$

   c) $z[n] = (2)^{-n}u[n-1]$

2. Find the IDTFT of

		Hints
a)	$\sum_{k=-\infty}^{\infty} \delta(\omega + 2\pi k)$	A long train of impulses. Check your transform table
b)	$\frac{1-e^{-j\omega(N+1)}}{1-e^{-j\omega}}$	1) using method discussed in class, find $y = \sum_{n=0}^{N} e^{-j\omega n}$ 2) compare with the mathematical definition of the DTFT
c)	$1 + 4\cos^2(\omega)$	Use Euler Identity to put in form of complex exponentials

3. Is $X(e^{j\omega})$ purely real, purely imaginary, or complex if

   a) $x[n] = \begin{cases} \lvert n \rvert, & -N \le n \le N \\ 0, & \text{otherwise} \end{cases}$

   b) $x[n] = \begin{cases} n^3, & -N \le n \le N \\ 0, & \text{otherwise} \end{cases}$

   c) $x[n] = \frac{\sin(\frac{\pi}{3}n)}{\pi n}$