Homework #7
Due Date: Mar. 16, 2005

1. (a) Use Matlab to calculate the DTFT of $x(n) = (0.6)^n u(n)$ and plot the magnitude and phase of $X(\omega)$ from $-\pi$ to π.

   (b) Do the same for $x(n) = (0.6)^{(n-2)} u(n-2)$

2. (a) Using Matlab, numerically calculate the convolution of $x(n) = (0.6)^n u(n)$ with $h(n) = \begin{cases} 1 & 0 \le n \le 5 \\ 0 & otherwise \end{cases}$ and plot.

   (b) Using Matlab, numerically calculate the DTFT of both x and h and then numerically determine the inverse DTFT of the product of those two and plot. Compare to part (a).

3. O&W 5.21 (a-f)

4. O&W 5.24