ECE 178 HW #2
Due: Wednesday, Jan 24, 2007.
See the enclosed handout as well.

1. Problem 2.11
2. Problem 2.12
3. Problem 2.15
4. Problem 2.16
5. Problem 2.17
6. Problem 2.19
7. Determine, for each of the following systems defined by the input/output relations, if the system is (a) linear, and (b) shift invariant. ("*t*" denotes a continuous time variable and "[n]" represents a discrete time variable.) In the following, y[n] denotes the output of a system for input x[n].
   a. $y[n] = x[n] - x[n-1]$
   b. $y[n] = Ax[n] + B$ where A and B are constants
   c. $y[n] = Ax[n] + g[n]$
   d. $y[n] = x[n]\cos(0.2\pi n)$
   e. $y[m,n] = g[m,n]x[m,n]$
   f. $y[m,n] = x[m-1,n]$
   g. $y[m,n] = m\,x[m,n-1] + n\,x[m-1,n]$.
   h. $y[m,n] = \sum_{k=0}^{n} x[m,k]$
   i. $y[m,n] = x[2,5]$