Homework #4: Phys 3320:   Prof. Olness   Fall 2013

Due Monday November 11, 2013

Hint: Use the sample mathematica file posted on the web page:
        `http://www.physics.smu.edu/~olness/www/13fall1320/3320/`

1,2,3,4) Using Mathematica, follow my example for the 4 functions given and:
- Plot the sample function:
- Compute the Fourier coefficients
- Plot the series with different numbers of termd
- Make a "frequency domain" plot of the coefficients
- Re-write the Exp series as a Trig series
- Verify that they are identical

5,6,7) By hand, compute the Sin coefficients for

   5) f(x)=x
   6) f(x)=0 for x=[0,π/2] and f(x)=1 for x=[π/2,π]
   7) f(x) = Exp[-x^2]

on the interval x=[0,2π].