Homework #1
Due Su 9/10

Note:

OW	Oppenheim and Wilsky
SSS	Schaum's Signals and Systems
SPR	Schaum's Probability, Random Variables, and Random Processes

Be sure to show all your work for credit.

1. (SSS 1.51)

   Determine whether or not each of the following signals is periodic. If a signal is periodic, determine its fundamental period.

   (a) $x(t) = \cos\left(2t + \frac{\pi}{4}\right)$
   (b) $x(t) = \cos^2 t$
   (c) $x(t) = (\cos 2\pi t)u(t)$
   (d) $x(t) = e^{j\pi t}$
   (e) $x[n] = e^{j[(n/4)-\pi]}$
   (f) $x[n] = \cos\left(\frac{\pi n^2}{8}\right)$
   (g) $x[n] = \cos\left(\frac{n}{2}\right)\cos\left(\frac{\pi n}{4}\right)$
   (h) $x[n] = \cos\left(\frac{\pi n}{4}\right) + \sin\left(\frac{\pi n}{8}\right) - 2\cos\left(\frac{\pi n}{2}\right)$

2. (SSS 1.56)
3. (SSS 1.57)
4. (SSS 1.58)
5. (SSS 2.46 (b), (c))
6. (SSS 2.47 (a), (c))
7. (SSS 2.62)
8. (OW 1.36)
9. (OW 1.37)
10. (OW 2.50)