Homework #2
Due Su 9/12

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. Determine the Fourier Series representation for each of the following signals if it exists.

   (a) \( x(t) = \cos\left(3\pi t + \frac{\pi}{3}\right) \)
   
   (b) \( x(t) = \sin^2(\pi t) \)
   
   (c) \( x[n] = 2\cos(1.6\pi n) + \sin(2.4\pi n) \)
   
   (d) \( x[n] = n \) for \( n = 0, 1, 2, 3 \) with period \( N = 4 \)

2. (OW 3.24)
3. (OW 3.30)
4. (OW 3.31)
5. (OW 3.34)
6. (OW 3.35)
7. (OW 3.36)
8. (OW 3.38)
9. (OW 3.39)
10. (OW 3.62)