ECE 320 SIGNALS AND SYSTEMS II

Problem Set 1

Fall 2002

Issued: Monday, August 26, 2002 **Due:** Wednesday, September 3, 2002

Reading in *Oppenheim and Willsky with Nawab*

8/28/02 — Sections 1.0-1.4
9/3/02 — Sections 1.5-1.7

Problem 1.21 in *Oppenheim/Willsky/Nawab*

Do parts a, b, c, and e using the signal $x(t)$ shown in Figure 1 below, rather than the one in the textbook.

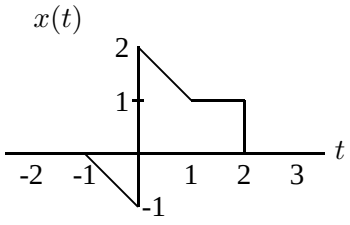

Figure 1: $x(t)$ for Problem 1.21.

Problem 1.22 in *Oppenheim/Willsky/Nawab*

Do parts a, c, e, and f using the signal $x[n]$ shown in Figure 2 below, rather than the one in the textbook.

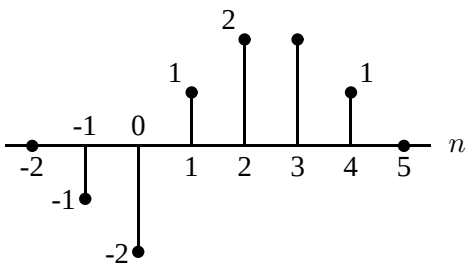

Figure 2: $x[n]$ for Problem 1.22.

Note: You may find it helpful to read the Mathematical Review section on page 71 of *Oppenheim/Willsky/Nawab* before doing the next three questions.

Problem 1.48 in *Oppenheim/Willsky/Nawab*

Do parts a through e when $r_0 = 2$ and $\theta_0 = \pi/2$.

Problem 1.49 in *Oppenheim/Willsky/Nawab*

Do parts b and c.

Problem 1.50 in *Oppenheim/Willsky/Nawab*

All parts.

Problem 1.55 in *Oppenheim/Willsky/Nawab*

All parts.

Matlab Exercises

There are no Matlab exercises assigned this week. If you feel you need to refresh your memory about how to use Matlab, you may want to read through the tutorial in Section 1.1 of the *Buck/Daniel/Singer* book.