

Northwestern University
Department of Electrical and Computer Engineering

ECE 222

Fall 2004

Problem set 4:

Date Issued: Oct. 18

Date Due: Oct. 27

Reminder : Exam I is Wed., Oct. 20 during class. The exam is closed book, but you can bring 1 page of handwritten notes (8.5×11 paper, both sides). The exam will cover material from Chapters 1 and 2 in the text. The topics include: basic signals (complex exponentials, unit impulse, unit step), system properties, LTI systems and convolutions, properties of LTI systems, and LTI systems represented by difference or differential equations.

Reading Assignment: Sect. 3.1-3.7 in Oppenheim and Willsky.

Do the following problems in Oppenheim and Wilsky. Be sure to clearly explain your work and state any assumptions that you make.

- 3.21.
- 3.22 (a) (only consider $x(t)$ for Fig. P3.22 (a),(d), and (e)).
- 3.24.
- 3.28 (a) and (b).
- 3.42 (Use the properties in Table 3.1).