IEOR 4701: Stochastic Models in Financial Engineering

Summer 2007, Professor Whitt

Homework Assignment 7: Wednesday, August 1, 2007

Due on Monday, August 6; to be discussed in Recitation on Sunday, August 5.

Chapter 7: Renewal Theory and its Applications

In Ross, read Sections 7.1-7.3 up to, but not including, Example 7.8. Skip Remark (ii) in Section 7.2 and Examples 7.1 and 7.3. Also Read Section 7.4 up to, but not including, Example 7.14. (The total required reading is approximately 13 pages.)

Do the following exercises at the end of Chapter 7. You need not turn in problems with answers in the back.

1. Hint: See the beginning of Section 7.2.

2. Hint: See Sections 2.2.4 and 7.2. Recall that the sum of independent Poisson random variables has a Poisson distribution..

3. (answer in back) Hint: See Example 7.2 and following Remark (i).

4. Hint: To make this relatively easy, consider the special case of deterministic times between renewals.

7.

8. (answer in back) Hint: Look at Section 7.3.

21.

26. Hint: Look at Section 7.4.

38.