

Due: Wednesday, April 23, 1997

Reading: Lecture Notes, Chapter 6, section 6.3.

Ferguson, Mathematical Statistics, chapter 4, section 4.1, pages 143 - 148,
chapter 5, section 5.6, pages 243 - 248.

[Lehmann, TSH, Chapter 6.]

1. Ferguson, MS, Problem 7, page 248.
2. Ferguson, MS, Problem 10, page 249.
3. Suppose that $V_{(1)} \leq \dots \leq V_{(N)}$ are the order statistics of a sample of iid exponential(1) random variables V_1, \dots, V_N . Show that

$$(V_{(1)}, \dots, V_{(N)}) \stackrel{d}{=} (Y_1, \dots, Y_N)$$

where

$$Y_i \equiv \sum_{j=1}^i \frac{Z_j}{N-j+1}$$

and Z_1, Z_2, \dots are iid exponential(1).