

Statistics 522, Problem Set 3

Wellner; 1/23/2013

Reading:

Shorack, PfS Course Notes, Chapter 8, Sections 9-10, pages 186 - 189.
Shorack, PfS Course Notes, Chapter 12, Sections 1-4, pages 301 - 315.
Shorack, PfS Course Notes, Chapter 13, Sections 1-3, pages 349 - 362;

Due: Wednesday, February 6, 2013.

Reminder: Jon gone 29 January (Wednesday) and 1 February (Friday)
Makeup lectures: 25 January (Friday) and
8 February (Friday) from 12:30 - 1:20, both in Denny 315.

1. Exercise 12.4.1, page 313, PfS Course Notes, Chapter 12.
(Exercise 12.4.1, page 306, PfS, 2000.)
2. Exercise 13.1.4, page 353, PfS Course Notes, Chapter 13.
(Exercise 18.1.4, page 471, PfS, 2000.)
3. Exercise 13.1.5, page 353, PfS Course Notes, Chapter 13.
(Exercise 18.1.5, page 471, PfS, 2000.)
4. Exercise 13.1.6, page 353, PfS Course Notes, Chapter 13.
(Exercise 18.1.6, page 471, PfS, 2000.)
5. Exercise 8.9.2, page 186: Turn $\{S_k^2, \mathcal{A}_k\}_{1 \leq k \leq n}$ into a martingale by centering it appropriately.
6. Exercise 8.10.1, page 189: Show that $\{T_k, \mathcal{A}_k\}_{n \leq k \leq N}$ is a martingale and that $Var(T_N)$ is equal to the right side of (b) on page 188.
(Exercise 8.11.1, page 249, PfS, 2000.)