Homework 8
Due Wednesday, November 28, 2007

1. Problem 4.24 in the textbook

2. (a) Compare the Chebyshev bound and the exact probability for the event \( \{ |X - \mu| \geq c \} \) as a function of \( c \) for \( X \) distributed uniform on \([−b, b]\).

   (b) Compare the Chernoff and Chebyshev bounds to the exact probabilities for \( X \) a Laplacian random variable with parameter \( a=2 \) for \( c=1,2,3,4,5 \). You may use MATLAB (or whatever mathematical tool you like) to evaluate the Chernoff bound.

3. Problem 4.30 in the textbook

4. Problem 4.31 in the textbook

SS-1. Problem 5.4 in the textbook

SS-2. Problem 5.8 in the textbook

SS-3. Problem 5.9 in the textbook

5. Problem 5.10 in the textbook

6. Problem 5.15 in the textbook

SS-4. Problem 5.21 in the textbook

7. Problem 5.22 in the textbook