HOMEWORK #4

Due Friday, October 24, 2008 (5:00 p.m.)

Midterm Exam: Thursday, October 30, 4:00–5:50 p.m. (open book, open notes)

Problems:

1. Let \( A, B, \) and \( C \) be events in the fields \( \mathcal{F}_1, \mathcal{F}_2, \) and \( \mathcal{F}_3, \) respectively, all for the same discrete sample space \( \Omega. \) For \( \mathcal{F}_3 \subset \mathcal{F}_2 \subset \mathcal{F}_1, \) show that

\[
E[E[X|C]|B] = E[X|C]
\]  

2. Chapter 4: Problem 4.36
3. Chapter 4: Problem 4.47
4. Chapter 5: Problem 5.19
5. Chapter 6: Problem 6.6
6. Chapter 6: Problem 6.14