

**HOMEWORK #3**

Due Friday, October 26, 2007 (5:00 p.m.)

**Reading:** Read Appendix D and Chapters 5 and 6

**Problems:**

1. Problem 4.14
2. Problem 4.18
3. Problem 4.21
4. Problem 4.36
5. Problem 5.5
6. Problem 5.19
7. 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

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

(1)