

HOMEWORK #4

Due Friday, October 21, 2011 (5:00 p.m.)

Problems:

1. Let X be a simple random variable defined over the atoms of field $\mathcal{F}_1$, and let B and C be events in fields $\mathcal{F}_2$ and $\mathcal{F}_3$, respectively, all for the same discrete sample space Ω . For $\mathcal{F}_3 \subset \mathcal{F}_2 \subset \mathcal{F}_1$, show that

$$E[E[X|C]|B] = E[X|C] \tag{1}$$

2. Problem 4.36
3. Problem 4.47
4. Problem 5.18
5. Problem 6.12
6. Problem 6.14