Problem Set 1 – Due Jan. 28

For both 1 and 2, you may assume the von Neumann-Morgenstern theorem.

1. Prove that Axioms 1-5 and 5’ are not consistent.
2. Prove that Axioms 1-5 imply Axiom 5’’.
3. Prove that Axioms 1-5 are consistent.
4. (more challenging) Prove as much of Claim 4 as you can. Say as much as you can about what you think you would have to show, and ideas for a proof strategy. Think about it seriously, but we will come back to this later if you don’t see it now.