STA-226, Spring Problem set 5. Due Thursday Feb 22nd.

Folks, I'm posting this late. If you think you may need an extension, let me know in class.

1. Prove part (b) of proposition 10.1.5

2. Was Bernoulli risk averse? Decreasingly risk averse?

3. You are eliciting someone's utility for money. You know this person has constant risk aversion in the range \$0 to \$1,000. You propose gambles of the form \$0 with probability p and \$1,000 with probability $1-p$, for the following four values of p: 1/10, 1/3, 2/3 and 9/10. You get the following certainty equivalents: 780, 365, 130, 35. Find a close approximation to the utility function. Justify briefly the method you use for choosing the approximation.

4. An investor has \$1000 to invest in two types of shares. If he invests \$$a$ is share A, he will invest \$(1000-a) in share B. An investment in share A has a .7 chance of doubling value and a .3 chance of being lost altogether. An investment in share B has a .6 chance of doubling value and a .4 chance of being lost altogether. Outcomes of the two investments are statistically independent. Determine the optimal value of a if the utility function is $u(z) = \log(z + 3000)$.