

University of California, Los Angeles
Department of Economics

Econ 142: Probabilistic Microeconomics

Spring 2005

Second Midterm Exam: May 24, 2005

Answer all questions, and only the questions. If you don't know the correct answer, don't write something else instead, as it will give you no credit. If you sense that something in your answer is wrong, say so. If you don't understand a question, raise your hand and ask.

Yes, it is not a mistake. The sum of points is 110.

1. (20pt) Write *short* explanations (3 – 4 lines) of the following terms.
 - (a) Allais paradox.
 - (b) Ellsberg paradox.
 - (c) Pooling insurance contract.
 - (d) Asymmetric information.
 - (e) Certainty line.
2. (30pt) 50% of the population are high risk and 50% are low risk. Draw a picture where separating contracts lead to a stable equilibrium.
3. (30pt) For each of the following statements, decide whether they are true or false. If a statement is not always true, then it is false. Explain your answers. Don't write more than 10 lines for each of these items.
 - (a) The set of preferences
 - $(3000, 1) \succ (4000, 0.8; 0, 0.2)$
 - $(4000, 0.2; 0, 0.8) \succ (3000, 0.25; 0, 0.75)$is inconsistent with expected utility theory.
 - (b) The set of preferences
 - $(3000, 1) \succ (4000, 0.8; 0, 0.2)$
 - $(400, 0.8; 0, 0.2) \succ (300, 1)$is inconsistent with expected utility theory.
 - (c) 50% of the population are high risk and 50% are low risk. If people can prove that they are low risk, then there is an efficient set of insurance contracts. (If you claim that this statement is correct, give a short description of this set of contracts).

4. (30pt) The utility function of the decision maker is $u(x) = \sqrt{x}$. His wealth is w , and there is a probability p he'll lose all of it (so in class notation, $L = w$). He may insure whatever part of his wealth he wishes at the price of q per dollar insurance.
- (a) Suppose he buys no insurance. What lottery will he face?
 - (b) Suppose he buys X dollars of insurance. How much will he pay for it? What lottery will he face?
 - (c) What is his expected utility from this lottery?
 - (d) For a given q , how much insurance will he buy?
 - (e) What happens when $q = p$?
 - (f) For what price will he buy no insurance?