1. (10pts, multiple selection) An insurance company is considering issuing three types of fire insurance policies: (i) complete insurance coverage, (ii) complete coverage above and beyond a $100,000 deductible, and (iii) 90 percent coverage of all losses. Which of the following statements are true?
   (a) Policies (ii) and (iii) both reduce the moral hazard problem of complete coverage;
   (b) Only policy (iii) can reduce the moral hazard problem of complete coverage;
   (c) If the property is worth more than one million, the owner is more likely to engage in fire prevention efforts under policy (ii) than under policy (iii);
   (d) Moral hazard problems arise with fire insurance when the insured party can influence the probability of a fire.
   (e) A consumer who is risk averse will buy a complete insurance contract.

2. (10pts, multiple selection) Consider the following bargaining game. Player A moves first and makes player B an offer for the division of $100. (For example, Player A could suggest that she take $60 and Play B take $40.) Player B can accept or reject the offer. If he rejects it, the amount of money available drops to $90, and he then makes an offer for the division of this amount. If Player A rejects the offer, the amount of money available drops to $80 and Player A makes an offer for this division. If player B rejects this offer, the amount of money drops to $0. Both players are rational, fully informed, and completely patient. Which of the following statements hold true?
   (a) Player B will end up with $0 in equilibrium;
   (b) Player B will get no more than $50 in equilibrium;
   (c) Both players will get $50 in equilibrium;
   (d) Player A enjoys the first mover advantage;
   (e) Player B enjoys the last mover advantage.

3. (10pts, multiple selection) Which of the following situations do not satisfy the criterion of Pareto efficiency?
   (a) Price competition equilibrium in duopoly of a homogeneous good;
   (b) The first degree price discrimination in monopoly;
   (c) Cournot-Nash equilibrium;
   (d) Perfect competition;
   (e) Economies of scale.

4. (10pts) There are three groups in a community. Their demand curves for public television in hours of programming, $Q$, are given respectively by
   $P_1=200-Q$, $P_2=120-Q$, and $P_3=180-Q$.
   Suppose public television is a pure public good that can be produced at a constant marginal cost of 100 per hour.
   (a) What is the efficient number of hours of public television?
   (b) How much public television would a competitive private market provide?

5. (10pts) Find the equilibrium of the game below.

### Player 2

|  |  | L | R |
|---|---|---|---|
|  | U | 3, 2 | -1, 3 |
| Player 1 |  |  |  |
|  | D | -1, 1 | 0, 0 |

Figure 1 The game between player 1 and player 2

6. (5pts) Please identify the reason why we sometimes have a backward bending labor supply curve.

7. (15pts) Suppose that we know the price elasticity of demand for the bicycles in market A is -2 and -4 in market B. The trade is not allowed between these two countries. If there is a monopolist producing bicycles and it differentiates the prices, $P_A$ and $P_B$, in these two markets, what is $P_A/P_B$? What degree of price differentiation is this?

8. (10pts) Use the demand-supply diagram to illustrate the short-run and long-run effect of a binding rent control over the housing market.

9. (20pts) Use the graphs to compare the long-run equilibria in the markets of perfect competition and monopolistic competition, respectively. Which one has a higher equilibrium price? Which one has a higher equilibrium quantity? Also indicate the excess profits in these two graphs, if any. Finally, indicate the deadweight loss in these two graphs, if any.