

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because some students have a class after your class.

1) (10 points) Answer EITHER Part A OR Part B.

A) Give an example of *tying* which is not bundling. Explain how that is tying and why it is not bundling.

B) Obviously, a firm cannot do perfect first-degree price discrimination. Give an example of a product which gets close to perfect price discrimination. Explain why that industry behaves in that manner.

2) (10 points) Answer EITHER Part A OR Part B.

A) In third-degree price discrimination, we drew the total marginal revenue (MR_T) line through the point where the two demand curves crossed. Why did we do that?

B) In third-degree price discrimination, we found where the total marginal revenue (MR_T) line crossed the MC line and then found where that height crossed the two individual MR curves. Why did we do that rather than find where the two individual MR curves cross the MC line?

3) (12 points) Answer EITHER Part A OR Part B.

A) What is meant by *rent seeking*? Why is it a problem?

B) Suppose a firm has a marginal cost of \$10/unit and sells the product for \$25/unit. What is the Lerner Index of Monopoly Power? Show all work and explain what the number means.

4) (18 points) Answer EITHER Part A OR Part B.

A) Draw the diagram for a monopsony. Use that diagram to prove monopsony's produce inefficiently.

B) A) What are *natural monopolies*? Why are they called that? Use a graph in your explanation

5) (20 points) Answer EITHER Part A OR Part B.

A) Suppose a firm selling suits has the following pricing scheme. If you buy the pants alone, it will cost you \$60. If you buy the jacket alone, it will cost you \$90. If you buy the pair, then it will cost you \$110. Draw the graph of the reservation prices. Show the areas which the customer buys neither the pants nor the jacket, the customer buys both the pants and the jacket, the customer buys only the jacket, and the customer buys only the pants. BRIEFLY state how you found the borders of the areas. Choose a point in the area which has the customer buying only the pants and prove they are better off buying pants but not the jacket than buying both.

B) This question is about the two-part tariff pricing. Draw the demand/MC diagram for a monopoly facing a horizontal marginal cost. Draw two different demand curves which are parallel. Place a price at a given level (not necessarily the optimal level). Assume the admission's fee is the consumer surplus of the person with the smaller demand. Find the total profits the firm makes off of the two customers combined. Explain how you found it.

6) (30 points) Answer EITHER Part A OR Part B.

A) Draw the MC/ATC/AVC/D diagram for a monopolistically competitive firm which is making positive profits. Find the quantity produced, price charged, and the profits. Explain how you found them. Illustrate what will happen over time to the curves, quantity sold, and price charged. Explain why that happens.

B) Suppose two firms in an Cournot-Nash duopoly have constant marginal costs of \$4/unit. The products are identical and the demand for the industry is given by $Q = 14 - \frac{1}{2}P$. Draw the diagram necessary to derive the reaction functions (a.k.a., best response functions). Explain how you got the diagram. Draw the reaction functions explaining how you found them. Find the Cournot-Nash equilibrium outputs and price. Find the competitive outputs and price.