Answers to Homework Set 12

1. (10%) If an unregulated monopolist sells a bundle to consumers and all consumers who buy the bundle, have a positive surplus, the firm is not maximizing its profits. Explain why you agree or disagree with this statement.

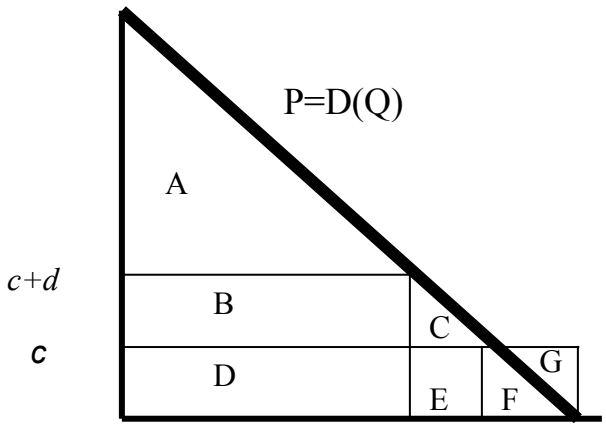
2. (10%) The willingness to pay for two miniature cars for three consumers is shown below:

Consumer Type	1955 Chevrolet	1955 Thunderbird	Bundle
Consumer 1	$15	$30	$45
Consumer 2	$25	$38	$63
Consumer 3	$20	$32	$52

   What prices should the firm charge if the cars are priced individually?
   What price should the firm charge for a bundle?
   Explain why the firm's profits will or will not increase if it sells a bundle.

3. (10%) A monopolist supplies rides at an amusement park. The demand function for rides of a typical consumer is shown in the figure below. The per unit cost of supplying the rides has two components: c, the cost of supplying the equipment and d, the cost of printing and collecting the tickets at each ride. The per unit cost is independent of the number of rides offered at the park. The capital letters in the figure represent areas. The monopolist is considering two pricing polices:

   Policy 1. An entrance fee and a per unit charge for each ride.
   Policy 2. Just an entrance fee. The advantage of this policy is that the firm can save on printing and collecting tickets.



a) On the graph, show the entrance fee, per unit charge total number of rides supplied and total profits under each policy. Note: I expect your answers to be clearly labeled.
b) Under what conditions will the profits under policy 2 exceed the profits under policy 1?
c) What is the disadvantage of policy 2? Can you think of another pricing policy that allows the firm to earn higher profits?

4. (10%) A monopolist sells a product with zero marginal production cost. He has two types of customers. Half of his customers have a demand curve

$$Q = 12 - p$$

while the other half has a demand curve

$$Q = 18 - p$$

Unfortunately the monopolist cannot distinguish between the two customers. But the nature of the product ensures that there can be no arbitrage. That is, one customer cannot purchase for another.

Devise a pricing scheme that maximizes revenue per customer.

5. (10%) Studies have shown that part-time (night) students place less demand on a university's resources than full-time (day) student. To give examples, they use less of faculty time, computer time, and library time. Since they cost less to serve, it seems obvious that part-time tuition rates should be less per course than full-time rates.

6. (10%) .Web sites are notorious for dropping “cookies” on visitors to their web site. These cookies, actually small computer files placed on the visitor’s computer, allow the sites to keep track which web sites the computer user visits. I have noticed that after I visit a commercial web site, I suddenly get hit with ads for similar products on other web sites I visit. Maybe this is annoying, maybe it is not. What effect will “cookies” have on resale price maintenance?

7. (10%) The Damon’s restaurant in Kent offers 25% off any lunch tab Monday through Saturday to any Kent Faculty Staff or Student with an ID.. Damons explains that this offer is made to show appreciation to the university community for its support throughout the year. Explain what important economics lesson you think the Damon’s manager has learned.

8. (10%) To prevent an opportunistic dealer from switching a customer from an advertised brand to a private label brand, a manufacturer should merchandise the advertised product under exclusive dealing and grant the dealer an exclusive territory. Explain why you agree or disagree.

9. (10%) Ethyl’s Bar and Grill has two types of customers. Their demand functions for drinks are

$$Q = 12 - 3p$$

and

$$Q = 24 - 8p.$$

While Ethyl cannot tell the two types apart, she can prevent arbitrage. Devise a pricing system (You may assume the marginal cost of a drink is zero)

10. (10%) Vendors at Yankee Stadium know that Yankee fans and Boston Red Sox fans have different demand functions for hot dogs: For each vendor, the Yankee fans’ inverse demand function is

$$P = 4 - 0.005Q$$

While the Red Sox fan’s inverse demand function is

$$P = 2.25 - 0.01Q$$

The marginal cost of a hot dog is $0.15

The vendors are instructed to look at the baseball cap the buyer is wearing (assume that every fan wears a cap). If the fan wears a Yankee

cap, the fan pays one price and if the fan wears a Rex Soc cap, the fan pays a different price.

a) What price will a vendor charge a Yankee fan and what price will a vendor charge a Red Sox fan?
b) How many hot dogs does each vendor sell and what is the profit of the vendor?