ECON2G03/2X03 ASSIGNMENT III

Due: November 30th , 2015 in class

1. The industry demand curve for a particular market is: Q = 1800 - 200P. The industry exhibits constant long-run average cost at all levels of output, regardless of the market structure. Long-run average cost is a constant $1.50 per unit of output. Calculate market output, price (if applicable), consumer surplus, and producer surplus (profit) for each of the scenarios below and illustrate the results graphically. Compare the economic efficiency of each possibility.

a. Perfect Competition
b. Pure Monopoly
c. First Degree Price Discrimination

2. Shooting Star Books is a small publishing company that specializes in science fiction books. Like most publishers, Shooting Star releases new books in hardcover form and later releases paperback versions of the books. The marginal cost of printing both types of books is $2 per book, and Shooting Star maximizes profits by practicing intertemporal price discrimination. The annual demand for recently released (hardcover) books is $Q1 = 400 - 10P1$, where quantity demanded is measured in thousands of books and price is measured in dollars per book. The annual demand for the paperback version of previously released books is $Q2 = 800 - 40P2$.

a. What are the marginal revenue curves associated with the two demand curves for books?
b. What are the profit maximizing prices for hardcover and paperback books? What are the quantities of books demanded at these prices for hardcover and paperback books?
c. Suppose the market demand for paperback books shifts to $Q2 = 150 - 100P2$. How does this change affect the profit maximizing price and quantity in the paperback book market?
d. Does this change affect the profit maximizing outcome in the hardcover book market?

3. A pure monopsony buyer of a resource has a marginal value curve for the resource expressed as: MV = 100 - 0.4Q. Its average expenditure function (and also the market supply function) is: AE = S = 20 + 0.011Q.

a. Find the monopsonist's profit maximizing price and quantity.
b. Compute the deadweight loss that results when the firm acts to maximize profit (that is, takes advantage of its monopsony power).
c. Calculate the index of monopsony power that this firm possesses.
d. Calculate the elasticity of supply of the resource.

4. After graduation, you start an internet-based firm that allows people to buy and sell books online. Based on your market research, you believe there are two basic types of customers. The first type is the casual reader who has relatively low willingness-to-pay for your services, and their annual demand is $Q1 = 30 - 40P$ where Q1 is the number of books traded per year and P is the price you charge per book traded. The second type of customer is the avid reader who has relatively high willingness-to-pay for your services, and their demand is $Q2 = 100 - 50P$. The marginal cost of your online service is $0.40 per book traded.

a. If you set your usage fee equal to the marginal cost, how many books will each type of customer trade on your system? What is the consumer surplus enjoyed by each type of customer?
b. What is the optimal entry fee that you should charge under a two-part tariff pricing scheme for access to your online market? How much consumer surplus is left for the two types of customers after they pay the entry fee and usage fee?