

**Homework Quiz: Monday, April 6**

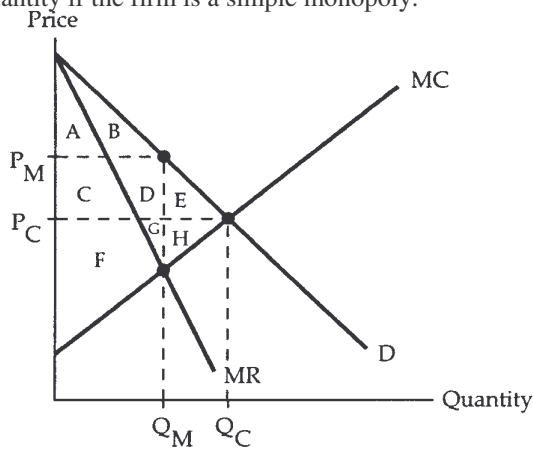
1. Computer chips are manufactured by Japanese firms and sold in the United States. Japanese imports are currently subject to a \$60 per unit tariff. A government official argues that the tariff is keeping prices too high and recommends a policy that would eliminate the \$60 tariff on imports.

Suppose that the supply of computer chips is characterized by an upward sloping supply curve and U.S. demand is characterized by a normal downward sloping demand curve. Suppose these curves are given by the following equations:

U.S. Demand equation:  $P = -2Q + 240$

Supply equation:  $P = 4Q + 60$

- i. Calculate  $P_t$ ,  $Q_t$ ,  $P_{new}$  (w/o tariff) and  $Q_{new}$  (w/o tariff)
  - ii. Calculate consumer surplus before and after the removal of the tariff.
  - iii. According to the efficiency criterion (and assuming we care only about the welfare of Americans) should we reject or accept the policy recommendation? Why?
2.  $P_C$  and  $Q_C$  are the equilibrium price and quantity if the firm behaves competitively, and  $P_M$  and  $Q_M$  are the equilibrium price and quantity if the firm is a simple monopoly.



- i. What area represents the producer's surplus earned in the monopoly equilibrium? \_\_\_\_\_
- ii. Suppose this firm initially acted competitively. If the firm switched to the simple monopoly equilibrium, how much deadweight loss would be created? \_\_\_\_\_
- iii. The difference between producer's surplus as a simple monopolist and producer's surplus if the price was set at the competitive equilibrium is: \_\_\_\_\_
- iv. Suppose the firm could perfectly price discriminate. The difference between consumer surplus under a simple monopoly scenario and consumer's surplus under the perfect price discriminating monopoly scenario is: \_\_\_\_\_
- iv. Suppose the firm could sell some of its product in a different city for the competitive market price. Should the firm sell more or less than  $Q_m$  in its local market? Label the new quantity  $Q_n$  on the graph above.

3. Chapter 12, Problem Set #s 1-5.

4. Multiple Choice

- i. A simple monopoly will maximize its profit by producing the quantity where
  - a. price and marginal cost are equal.
  - b. the demand curve crosses the average cost curve.
  - c. marginal cost reaches its minimum.
  - d. marginal revenue equals marginal cost.

- ii. A natural monopoly exists when a firm
  - a. owns all of the world's known reserves of a natural resource.
  - b. has an average cost curve that is decreasing at the point where it crosses demand.
  - c. has obtained a patent on a new genetically modified organism.
  - d. is able to practice price discrimination in the sale of a natural resource.
  
- iii. When first-degree price discrimination is perfectly implemented
  - a. social gain is maximized, with all gains going to the monopoly.
  - b. consumers' surplus and producer's surplus are both larger than in the case of simple monopoly.
  - c. the resulting deadweight loss is larger than if the monopoly did not price discriminate.
  - d. the consumers' and producer's gains from trade are identical to those in a competitive market.
  
- iv. In order to practice *any form* of price discrimination, a monopoly must be able to
  - a. identify the maximum price that each customer is willing to pay.
  - b. separate its customers into distinct groups.
  - c. prevent resale of its product.
  - d. establish a legal barrier to entry.
  
- v. Second-degree price discrimination generally takes the form of
  - a. special prices for students and seniors.
  - b. membership clubs.
  - c. quantity discounts.
  - d. "extras" like free delivery and free customer service.
  
- vi. The initial holdings of an individual in an Edgeworth box is referred to as
  - a. the contract point.
  - b. the endowment point.
  - c. the Pareto preferred point.
  - d. the competitive equilibrium point.
  
- vii. In an Edgeworth box, a point where two indifference curves are tangent represents
  - a. the initial endowment point.
  - b. an allocation that both consumers prefer to the initial endowment.
  - c. a competitive equilibrium.
  - d. a Pareto-optimal allocation of goods.
  
- viii. Analysis of an Edgeworth box economy shows that a competitive equilibrium
  - a. must be Pareto optimal.
  - b. can be located anywhere along the contract curve.
  - c. may lie anywhere within the region of mutual advantage.
  - d. must lie to the southeast of the endowment point.