ECON 180 - Regulation & Antitrust Policy
Drake University, Spring 2013
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Signature: ______________________________

Printed name: ______________________________

# QUIZ 9 VERSION B
# "Monopolization and Price Discrimination"

INSTRUCTIONS: This exam is closed-book, closed-notes. Simple calculators are permitted, but graphing calculators or calculators with alphabetical keyboards are NOT permitted. Mobile phones or other wireless devices are NOT permitted. Points will be subtracted for illegible writing or incorrect rounding. Point values for each question are noted in brackets.

**I. Multiple choice:** Circle the one best answer to each question. [2pts each: 18 pts total]

(1) To be convicted of violating the Sherman Act Section 2, firms must possess monopoly power and
a. show intent to monopolize a market.
b. have higher cost than any potential rival.
c. enjoy above-normal profit.
d. have lower cost than any potential rival.

(2) Predatory pricing can be profitable only if predation is followed by a period of
a. price discrimination.
b. accommodation.
c. losses.
d. competition.
e. recoupment.

(3) John McGee's (1958) influential study of the Standard Oil case argued that predatory pricing as a means for driving out rivals is generally
a. widespread.
b. effective but welfare-reducing.
c. unprofitable.
d. cheaper than merging with rivals.
e. all of the above.

(4) According to the Areeda-Turner (1975) rule, a firm should be presumed to be engaging in predatory pricing if its price is less than its
a. average total cost.
b. marginal cost
c. average variable cost.
d. average fixed cost.

(5) According to the "essential facilities" doctrine, a company is guilty of monopolization if one can show all of the following, *except*
a. the competitor's inability to duplicate the facility.
b. the feasibility of providing the facility to the competitor.
c. denial of use of facility to the competitor.
d. control of the facility by a monopolist.
e. a difference in price between the monopolist and the competitor.

(6) Suppose demand for a airline tickets is *less* elastic among people whose last names begin with A through K than among people whose last names begin with L through Z. If an airline with market power wishes to maximize profit, it will set
a. a higher price for persons with last names beginning A through K.
b. a higher price for persons with last names beginning L through Z.
c. the same price for everyone, because the marginal cost is the same.
d. cannot be determined from information given.

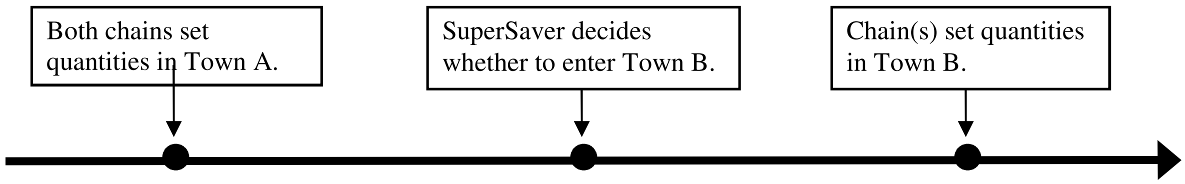
(7) If output does not increase when a monopolist uses price discrimination, then welfare
a. increases.
b. decreases.
c. does not change.
d. cannot be determined from information given.

(8) The Robinson-Patman Act was passed in 1936 to protect
a. consumers.
b. large chain stores.
c. small independent retailers.
d. manufacturers.
e. all of the above.

(9) The Supreme Court case of *U.S. v. Terminal Railroad Association* (1912), involving competing railroads' access to bridges into St. Louis, was important in establishing
a. the definition of predatory pricing.
b. the "essential facilities" doctrine.
c. the illegality of price discrimination.
d. the "power and intent" doctrine for monopolization.
e. all of the above.

**II. Problems:** Insert your answer to each question below in the box provided. Use the margins and graphs for scratch work—only the answers in the boxes will be graded. Work carefully—partial credit is not normally given for questions in this section.

(1) [Predatory pricing: 33 pts] Two supermarket chains (ValueMart and SuperSaver) both have stores in Town A. In addition, ValueMart already has a store in Town B. SuperSaver may decide to put a store Town B, but entry will cost SuperSaver some start-up costs (for advertising, etc.). The time line for the firms' interaction is as follows.




The demand curve for each town is **$P = 16 - (Q/100)$.** For both companies, marginal cost is constant and equal to average cost. For SuperSaver, marginal cost is **$ 4**. However, SuperSaver is unsure whether ValueMart's marginal cost is **$ 4** or **$ 10**.

If both firms' marginal costs are $4, then the symmetric Cournot duopoly equilibrium is $q_V = q_S = 400$.

a. Compute the Cournot duopoly price in this case. | $

b. Compute SuperSaver's profit in Town B in this case, ignoring start-up cost. | $

If instead ValueMart's marginal cost is $10, then the asymmetric Cournot duopoly equilibrium is $q_V = 0$ and $q_S = 600$.

c. Compute the Cournot duopoly price in this case. | $

d. Compute SuperSaver's profit in Town B in this case, ignoring start-up cost. | $

Suppose SuperSaver believes there is a 50% chance that ValueMart's marginal cost is $4, and a 50% chance that ValueMart's marginal cost is $10.

e. Compute SuperSaver's expected profit in Town B, ignoring start-up cost. | $

f. If the start-up costs of entering Town B are **$ 3000** , should SuperSaver enter Town B if it is uncertain of ValueMart's marginal cost? Answer "Yes" or "No."

Now in fact, ValueMart's marginal cost and average cost are both $10, though SuperSaver does not know this.

g. Compute ValueMart's total combined profit in both Towns A and B from simply playing each Town as an asymmetric Cournot duopoly. | $

Suggest an alternative strategy for ValueMart that will generate higher total profit.

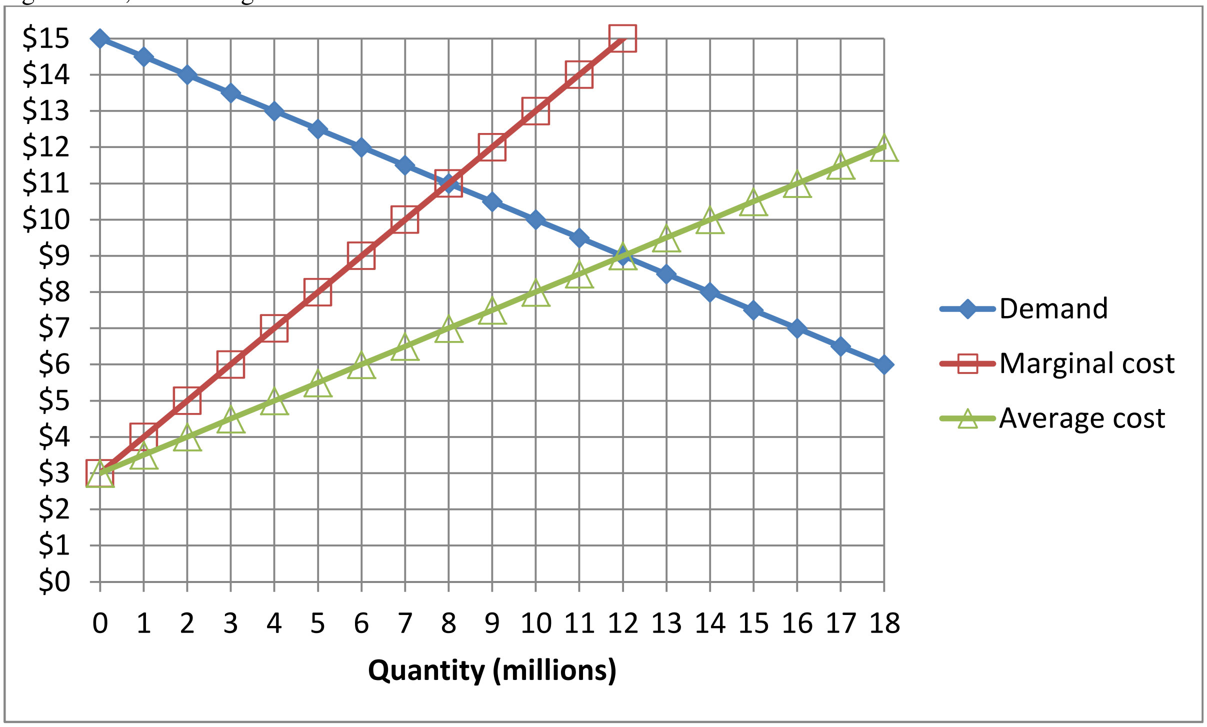
h. What quantity should ValueMart set in Town A—0 or 400?

i. What quantity should ValueMart set in Town B?

j. Compute ValueMart's total combined profit in both Towns A and B. | $

k. Explain why your suggested strategy works.

(2) [Perfect price discrimination: 28 pts] Suppose Monster Corporation is a monopoly and faces the demand, marginal cost, and average cost curves shown below.




First, assume that Monster Corporation must set a single price for all customers.

a. Using a straightedge, draw and label Monster Corporation's marginal revenue curve on the graph above.

b. What price will Monster Corporation set to maximize profit? $

Alternatively, assume that Monster Corporation can set a different price for each unit sold, according to buyers' willingness to pay. That is, assume that Monster Corporation can engage in perfect ("first-degree") price discrimination.

c. What is the highest price Monster Corporation will set for any buyer? Give an answer to the nearest whole dollar. $

d. What is the lowest price Monster Corporation will set for any buyer? Give an answer to the nearest whole dollar. $

Compare these two situations by computing the following.

| | *Single-price monopoly* | *Perfect price discrimination* |
|---|---|---|
| e. Quantity produced. | million | million |
| f. Total revenue. | $ million | $ million |
| e. Total cost. | $ million | $ million |
| f. Total profit. | $ million | $ million |
| e. Consumer surplus. | $ million | $ million |

(3) [Monopoly price discrimination: 8 pts] Suppose the elasticity of demand for basketball tickets by students is **-9**, and the elasticity of demand for basketball tickets by the general public is **–2**. Suppose the basketball arena has a marginal cost of **$ 4** per person.

a. Compute the profit-maximizing price for tickets sold to students.

| $ |
|---|

b. Compute the profit-maximizing price for tickets sold to the general public.

| $ |
|---|

(4) [Cases: 10 pts] Consider the following list of important cases:

- Standard Oil v. U.S. (1911).
- U.S. v. U.S. Steel (1920).
- U.S. v. Alcoa (1945).
- U.S. v. United Shoe Machinery (1953).
- U.S. v. Grinnell Corps (1966).
- Utah Pie v. Continental Baking (1967).
- Berkey Photo v. Kodak (1979).
- MCI v. AT&T (1982).

Complete each sentence below with the appropriate case from this list.

| | |
|---|---|
| a. One remedy for monopolization is to break up the firm, as was done in the case of ... | |
| b. The Supreme Court stated that "the law does not make mere size an offense" in the case of ... | |
| c. The Seventh Circuit Court articulated the "essential facilities" doctrine in the case of ... | |
| d. The Supreme Court often makes the mistake of “protecting competitors instead of protecting competition,” according to Justice Potter Stewart's dissenting view in the case of ... | |
| e. A Circuit Court decision admitted the right of a dominant firm to “compete aggressively” in the case of ... | |

**III. Critical thinking** [3 pts] Several companies have filed a complaint against Google in Europe, alleging among other things that Google's Android mobile phone operating system favors Google's own applications over those of its rivals.[1] Suppose you were an attorney for these companies making a similar complaint in the United States. What statutes (laws) and cases would you cite? Why?

[end of quiz]

[1] Vanessa Mock, "Microsoft Presses for Android Probe," *Wall Street Journal*, April 10, 2013, p. B4.