

Economics 2  
Winter 2008

your name \_\_\_\_\_  
your TA's name \_\_\_\_\_  
day and time of your discussion section \_\_\_\_\_

PRACTICE FIRST EXAM

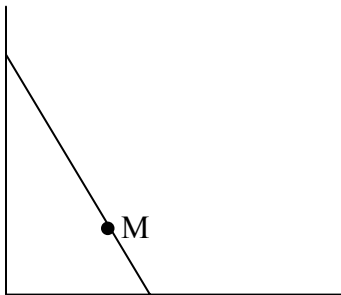
DIRECTIONS: No calculators, books, or notes of any kind are allowed. All papers and notebooks must remain closed and on the floor at all times throughout the exam, and students are not allowed to leave the examination room until finished. Answer all questions in the space provided with the exam. 100 points are possible on this exam.

HINT: Area of a triangle =  $(1/2)$  (base) (height)

PART I: MULTIPLE CHOICE—circle the correct answer (4 points each, 72 points total)

- 1.) Which of the following is the best definition of the price elasticity of demand?
  - a.) change in the price divided by the change in quantity demanded
  - b.) change in the quantity demanded divided by the change in price
  - c.) percentage change in the price divided by the percentage change in the quantity demanded
  - d.) percentage change in the quantity demanded divided by the percentage change in the price

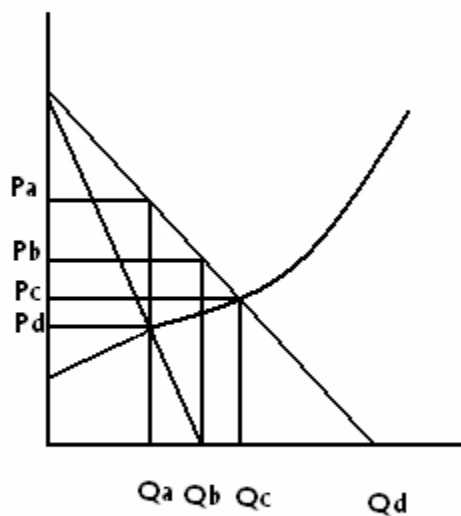
Question 2 refers to the following graph of a linear demand curve facing a monopolist



- 2.) At the point labeled M,
  - a.) elasticity is greater than one meaning total revenue would increase if the firm raises the price
  - b.) elasticity is less than one meaning total revenue would decrease if the firm raises the price
  - c.) elasticity is less than one meaning total revenue would increase if the firm raises the price
  - d.) elasticity is greater than one meaning total revenue would decrease if the firm raises the price
- 3.) If a firm was operating at a point where marginal cost is equal to average total cost, you would conclude that
  - a.) average total cost is at its lowest possible value
  - b.) fixed cost must be zero
  - c.) profit is at its highest possible value
  - d.) none of the above
- 4.) Which of the following statements is most accurate?
  - a.) marginal revenue is less than price whenever the demand curve slopes down
  - b.) total revenue is a decreasing function of output whenever marginal revenue is positive
  - c.) marginal cost is a decreasing function of output whenever marginal revenue is positive
  - d.) total revenue is zero whenever marginal revenue is zero

- 5.) Which of the following is true about the behavior of a price-taking firm under perfect competition compared to a monopolist?
- both the price-taker and the monopolist set  $MR = MC$
  - neither the price-taker nor the monopolist set  $MR = MC$
  - only the monopolist sets  $MR = MC$
  - only the price-taker sets  $MR = MC$

Questions 6 and 7 refer to the following diagram which displays the marginal revenue, marginal cost, and demand curves for a monopolist. Assume that the monopolist must charge the same price to each customer.



- 6.) The level of output chosen by the monopolist is
- $Q_a$
  - $Q_b$
  - $Q_c$
  - $Q_d$
- 7.) The price chosen by the monopolist is
- $P_a$
  - $P_b$
  - $P_c$
  - $P_d$
- 8.) The term “oligopolist” is used to describe
- a firm that is the only seller of a given product
  - a firm that is the only buyer of a given product
  - a firm that is one of only a few sellers of a given product
  - a terrifying sea creature with a single, scary eyeball

- 9.) The term “natural monopoly” is used to describe
- industries with constant returns to scale
  - industries that are relatively easy for new firms to enter
  - industries with increasing returns to scale
  - the natural desire of all firms to try to monopolize their respective markets
- 10.) Suppose that a monopolist were selling a quantity  $Q_1$  at the price  $P_1$ , where  $(Q_1, P_1)$  is a point on the firm’s demand curve. Suppose that, for this operating plan, the firm’s marginal revenue is less than marginal cost. Then
- the monopolist could make more profit by increasing production and increasing the price
  - the monopolist could make more profit by decreasing production and decreasing the price
  - the monopolist could make more profit by decreasing production and increasing the price
  - the monopolist could make more profit by increasing production and decreasing the price
- 11.) Suppose you observed a monopoly that was operating at the point where  $MR = MC$  and yet the firm is making a loss. From this you might reasonably conclude
- the firm must have fixed costs of production
  - the accountant must have made an error
  - $MR$  must be equal to the price
  - $MR$  must be greater than the price
- 12.) How would you compare the levels of total surplus and consumer surplus that result from the usual monopoly with those that result from a monopolist that practices perfect price discrimination?
- under perfect price discrimination, total surplus is bigger and consumer surplus is bigger
  - under perfect price discrimination, total surplus is smaller and consumer surplus is smaller
  - under perfect price discrimination, total surplus is smaller and consumer surplus is bigger
  - under perfect price discrimination, total surplus is bigger and consumer surplus is smaller
- 13.) Patents are an example of monopoly that results from
- government prohibiting firms from competing
  - economies of scale
  - network economies
  - mergers or acquisitions
- 14.) Which of the following is not a usual characteristic of monopolistic competition?
- a large number of firms each with small market share
  - each firm produces a product that is differentiated from the others
  - a single large firm acts like a monopolist while a large number of smaller firms compete for the rest of the market
  - Firms are free to enter or exit

Questions 15-16 refer to the following payoff matrix for an investment game between Firm A and Firm B:

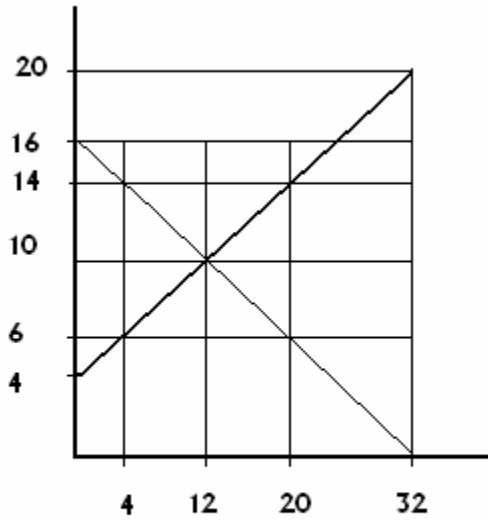
	Firm B invests	Firm B does not invest
Firm A invests	A gets 20 B gets 20	A gets 70 B gets 10
Firm A does not invest	A gets 5 B gets 60	A gets 50 B gets 50

- 15.) Which of the following statements is correct?
- both Firm A and Firm B have a dominant strategy
  - neither Firm A nor Firm B have a dominant strategy
  - Firm A has a dominant strategy and Firm B does not have a dominant strategy
  - Firm B has a dominant strategy and Firm A does not have a dominant strategy
- 16.) Which of the following payoffs would result from the Nash equilibrium?
- Firm A gets 20 and Firm B gets 20
  - Firm A gets 70 and Firm B gets 10
  - Firm A gets 5 and Firm B gets 60
  - Firm A gets 50 and Firm B gets 50
- 17.) The tit-for-tat strategy only works for Prisoner's dilemma games
- in which the Nash equilibrium is Pareto efficient
  - which are repeated
  - in which there is no Nash equilibrium
  - in which one player lacks a dominant strategy
- 18.) If a cartel acts as a group to set the monopoly price, then
- the marginal revenue that an individual member of the cartel would receive if it were to increase production is less than its marginal cost
  - the marginal revenue that an individual member of the cartel would receive if it were to increase production is equal to its marginal cost
  - the marginal revenue that an individual member of the cartel would receive if it were to increase production is greater than its marginal cost
  - the marginal revenue for each individual member of the cartel is maximized while the marginal cost for each individual member of the cartel is minimized

PART II: FILL IN THE BLANK (28 points total)—credit for correct answer only (no partial credit)

19.) The diagram below shows the supply and demand curves for a competitive market. The government has imposed a price ceiling of \$6 per unit in this market. Calculate the magnitudes of the following when this price ceiling is imposed by the government (3 points each, 9 points total)

- a.) producer surplus \_\_\_\_\_
- b.) consumer surplus \_\_\_\_\_
- c.) deadweight loss from ceiling \_\_\_\_\_



20.) (3 points each, 12 points total). The following data describe the demand curve and total cost curve facing a monopolist. The monopolist must charge the same price to each customer. You are to answer the following four questions in the blanks provided:

- a.) What level of output will the firm choose? \_\_\_\_\_
- b.) What price will the firm charge? \_\_\_\_\_
- c.) What level of producer surplus will result? \_\_\_\_\_
- d.) What level of consumer surplus will result? \_\_\_\_\_

Q	P	TC
1	10	1
2	9	3
3	8	6
4	7	10
5	6	15
6	5	20
7	4	26
8	3	32
9	2	39
10	1	46

21.) (4 points each, 8 points total) Suppose 5 firms each control 20% of the market.

- a.) Calculate the Herfindahl-Hirschman Index \_\_\_\_\_
- b.) What term would you think best describes this market structure? \_\_\_\_\_

Answers: 1d,2c,3a,4a,5a,6a,7a,8c,9c,10c,11a,12d,13a,14c,15a,16a,17b,18c  
 19 a(4), b(36) c(32); 20a(4; 3 also OK); b(7; 8 also OK), c(18); d(6; 3 also OK)  
 21 a(2000) b(oligopoly)