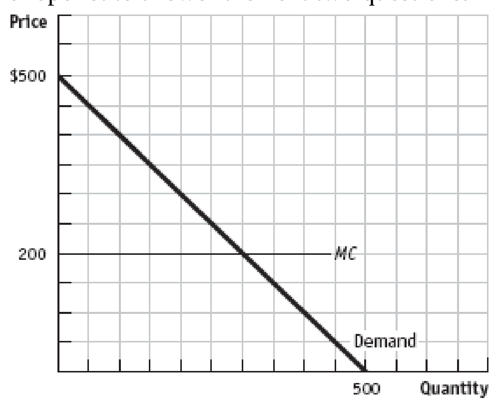
ECONS 101 – PRINCIPLES OF MICROECONOMICS
QUIZ #6 – Week 04/19/09 to 04/25/09

CHAPTER 14 – Monopoly

1. Joe's price elasticity of demand for airplane travel is equal to 2, and Beth's price elasticity of demand for airplane travel is equal to 1.3. If the airline companies are allowed to price discriminate, we would anticipate that if Joe and Beth are both traveling to the same location and leaving from the same airport,
a. they will both pay the same price for an airline ticket.
b. Joe will pay a higher price for an airline ticket.
c. Beth will pay a higher price for an airline ticket.
d. it is unclear who will pay the higher price for an airplane ticket.

Use the following graph of a monopolist to answer the next two questions.



2. If this monopolist profit maximizes, it will produce ______ units of output, charge a price of ________, provide a producer surplus equal to _________, provide a consumer surplus equal to _______, and create a deadweight loss equal to ________.
a. 250; $250; $31,250; $31,250; $0
b. 150; $350; $22,500; $11,250; $11,250
c. 150; $350; $11,250; $22,500; $11,250
d. 300; $200, $0; $45,000; $0

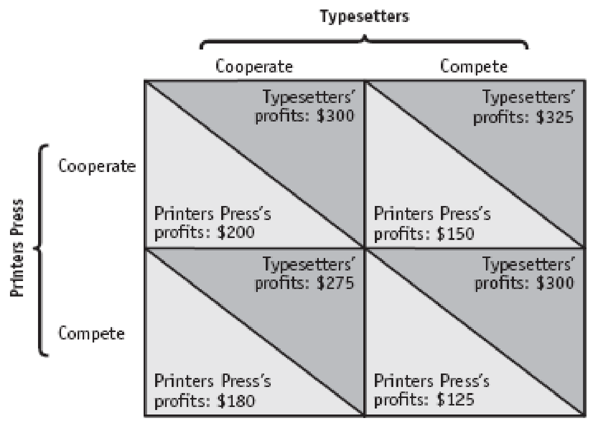
3. If this monopolist practices perfect price discrimination, it will produce _____ units, charge a price of ______ for the last unit produced, provide a producer surplus equal to ______, provide a consumer surplus equal to ______, and create a deadweight loss equal to ______.
a. 300; $200; $0; $45,000; $0
b. 300; $200; $45,000; $0; $0
c. 250; $200; $43,750; $0; $1,250
d. 250; $200; $0; $43,750; $1,250

CHAPTER 15 - Oligopoly

4. There are ten firms in an industry and five of these firms each have sales equal to 10% of the total market. Two of the other five firms each have sales equal to 20% of the total market, two of the other five firms each have sales equal to 3% of the total market, and the remaining firm has sales equal to 4% of the total market. What is the HHI for this industry?
a. 100 c. 4,152
b. 1,334 d. 1,000

5. When a monopolist lowers price, the monopolist experiences both a quantity and a price effect from this action. When a firm in a cartel lowers price, it also experiences a quantity and a price effect from this action. With respect to the monopoly's experience, the firm in a cartel finds that the
a. quantity effect is a negative effect on total revenue.
b. price effect is a larger positive effect on total revenue for the firm in the cartel than it is for the monopolist.
c. price effect is a smaller negative effect on total revenue for the firm in the cartel than it is for the monopolist.

Use the following information to answer the next three questions. The following payoff matrix indicates the level of profits earned by Printers Press and Typesetters, the only two firms in the printing industry in an economy. The level of profits for each firm depends on whether they cooperate or compete with one another.



6. What is Printers Press's dominant strategy?
a. Compete
b. Cooperate
c. Printers Press does not have a dominant strategy.

7. What is Typesetters' dominant strategy?
a. Compete
b. Cooperate
c. Typesetters does not have a dominant strategy.

8. When Printers Press and Typesetters pursue their dominant strategies, the sum of their joint profits
a. is maximized.
b. is not maximized.

9. In the prisoner's dilemma,
a. both players have an incentive to cheat no matter what the other player does.
b. when both players cheat, both players are worse off than if neither of them had cheated.
c. The prisoner's dilemma is a helpful tool for understanding one-shot games.
d. Answers (a), (b), and (c) are all true.

10. When firms in an oligopoly pursue a tit-for-tat strategy, this implies that each firm will
a. continue to pursue its strategy no matter what the other firms in the oligopoly choose to do.
b. punish other firms if they cheat on the tacit agreement that the firms have with one another.
c. behave cooperatively, but will then mimic what the other player did in the previous period.
d. Answers (b) and (c) are both true.

11. Firms in an oligopoly that expect to compete with one another for an extended period will
a. choose a noncooperative strategy, since they do not like competing with other firms and they hope this will drive some firms out of the industry.
b. choose a tit-for-tat strategy that evolves into all firms cooperating, since they realize this is their best strategy if they are to be in the same industry for an extended period.
c. engage in price wars in hopes that some firms will be driven from the industry, leaving a smaller number of firms to collude with one another.
d. often ignore one another, since they cannot do anything about the fact that they are competing in the same industry.

12. In the kinked demand curve model, a firm’s decision to raise its price above the tacitly agreed upon price will
a. enable the firm to increase its revenue.
b. result in the firm selling fewer units of the good than the firm might initially anticipate, since the other firms in the tacit agreement will not change the price of the products they are selling.
c. be an episode of cheating on the tacit agreement that results in the firm being better off than if it adhered to the agreement it made.
d. not be possible, because the firm has made a formal agreement about the price it will charge and the quantity it will produce.

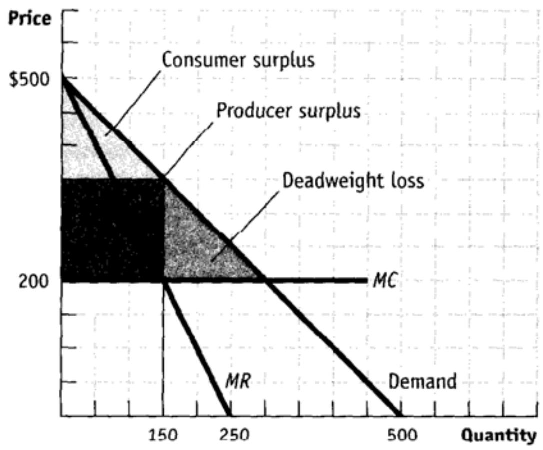
13. Two firms have a tacit agreement with one another based on the kinked demand curve model. Which of the following statements is true?
I. The two firms will produce the same level of output and sell this output at the same price, if they adhere to the tacit agreement.
II. The two firms may not necessarily have the same marginal cost of production.
III. The kinked demand curve model is a model that cannot explain collusion between these two firms.
a. Statement I is true.
b. Statement II is true.
c. Statements I and II are true.
d. Statements I, II, and III are true.

ECONS 101 – PRINCIPLES OF MICROECONOMICS
ANSWER KEY FOR QUIZ #6 – Week 04/19/09 to 04/25/09

1. Answer c. Price elasticity of demand measures price sensitivity. Because Joe's price elasticity of demand is greater than Beth's price elasticity of demand, we know that Joe is more price sensitive. With regard to airline tickets, this indicates that Beth's travel is less negotiable than Joe's travel and therefore that Beth can anticipate she will pay more for an airline ticket than Joe.

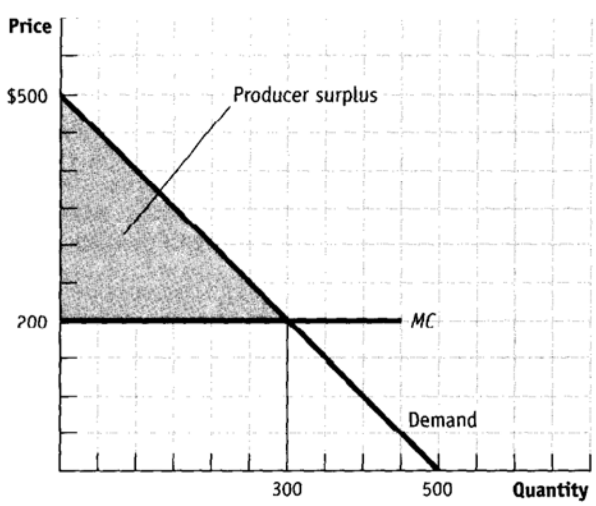
2.

Answer b. The monopolist profit maximizes by producing the quantity where $MR = MC$. The MR curve for this monopolist is $MR = 500 - 2Q$. So the monopolist will produce 150 units, and it will sell these units for a price of $350 (substitute 150 units into the demand curve to find the price the monopolist will charge). The graph below indicates the areas that correspond to consumer surplus, producer surplus, and deadweight loss.



3.

Answer b. The perfect price discriminator captures all of the consumer surplus by producing the level of output where MC = demand. In this case, the perfectly price-discriminating firm will produce 300 units and charge a price of $200 for the last unit produced. The graph below indicates the area that corresponds to producer surplus. There is no consumer surplus or deadweight loss associated with perfect price discrimination.



4. Answer b. The HHI is equal to

$$HHI = (10)^2 + (10)^2 + (10)^2 + (10)^2 + (10)^2 + (20)^2 + (20)^2 + (3)^2 + (3)^2 + (4)^2 = 1,334.$$

5. Answer c. The price effect is a negative effect on total revenue, since as the firm (whether a monopolist or a firm in a cartel) reduces price on all the units it sells in order to sell more units of the good, this causes total revenue to fall. The quantity effect on total revenue is a positive effect for either type of firm: when the firm reduces price to sell more units of the good, the extra sales increase the firm's total revenue.

6. Answer b. No matter which strategy Typesetters pursues, Printers Press is better off adhering to a strategy to cooperate since it will leave the company with the highest level of profits.

7. Answer a. No matter which strategy Printers Press pursues, Typesetters is better off adhering to a strategy to compete since it will leave the company with the highest level of profits.

8. Answer b. When both companies pursue their dominant strategies, they earn a total of $475 profit, which is less than they would earn if they both pursue the strategy to cooperate.

9. Answer d. Answers (a) and (b) are true because of the nature of the prisoner's dilemma, whereas answer (c) underscores the idea that modeling a game that is only played once is easier than modeling a game that is played multiple times.

10. Answer d. In the tit-for-tat strategy, the firms in general cooperate with one another, but they will retaliate if a firm elects to not cooperate. This retaliation takes the form of mimicking whatever the other firm has done in the previous period.

11. Answer b. When a small number of firms realize that they will be competing for an extended period, these firms have a tendency to elect to cooperate with one another. Often the firms realize this is their best strategy after they have been the recipient of the tit-for-tat strategy, which effectively punishes noncooperating firms.

12. Answer b. In the kinked demand curve model, an increase in price causes the firm to sell fewer units as the other firms in the industry do not match the price increase. Thus, consumers of the firm's product will switch to other providers when the firm raises its price. When the firm increases the price of its good, it sells fewer units, and since this occurs in the elastic region of the demand curve, the firm's total revenue falls. If the firm raises the price and therefore cheats on the tacit agreement, the firm will find that it is worse off than if it adhered to the agreement. The kinked demand curve model is based on a tacit agreement rather than an explicit, formal agreement.

13. Answer c. Statements I and II are true in general about the kinked demand curve model. Because of the vertical segment of the MR curve (due to the kink in the demand curve), different MC curves within a specific range can result in the firms producing the same quantity and selling that quantity at the same price. This model also provides insight into why firms collude with one another with respect to output and price, even though they may have a different marginal cost of production.