Quiz #5 – Week 04/12/2009 to 04/18/2009

You have 30 minutes to answer the following 17 multiple choice questions. Record your answers in the bubble sheet. Your grade in this quiz will count for 1% of your total grade in this course.

Chapter 13 – Perfect Competition (last section of the chapter)

1. Which of the following statements for a perfectly competitive industry is true?

I. In the short run, the number of firms in the industry is fixed.

II. For a constant-cost industry, the market supply curve in the short run is a horizontal line.

III. In a short-run market equilibrium, the quantity supplied equals the quantity demanded.

a. Statement I is true.

b. Statements I and II are true.

c. Statements I and III are true.

d. Statements I, II, and III are true.

2. The long-run market equilibrium in a perfectly competitive industry with identical firms results in all firms

a. earning zero economic profit.

b. producing the quantity associated with their break-even price.

c. producing the profit-maximizing quantity at which $MR = MC$.

d. All of the above statements are true.

3. Suppose there are two firms in a perfectly competitive industry and that each of these two firms have a MC curve that can be expressed as $MC = 2q$, where q is the level of output produced by the firm. Furthermore, suppose that the minimum point of the AVC curve occurs at \$10. If these two firms comprise the industry (a simplification to make the calculation easier), which of the following equations describes the industry supply curve where Q refers to the market quantity and P refers to the market price?

a. $P = 2Q$ for $Q \geq 5$

b. $P = Q$ for $Q \geq 5$

c. $P = Q$ for $Q \geq 10$

d. $P = 2Q$ for $Q \geq 10$

Chapter 14 - Monopoly

4. The demand for the monopolist's product

a. is downward sloping.

b. equals the market demand curve.

c. is equal to the firm's *MR* curve.

d. All of the above statements are true.

e. Answers (a) and (b) are true.

5. An industry is characterized by having a few firms, each producing a differentiated product. The market structure for this industry is most likely

a. perfect competition.

b. monopoly.

c. oligopoly.

d. monopolistic competition.

6. Which of the following statements is true?

I. A monopolistically competitive market structure is composed of many firms producing differentiated products.

II. A perfectly competitive firm profit-maximizes by producing the level of output where *MR* = *MC*.

III. A monopolist profit maximizes by charging the price where *MR* = *MC*.

a. Statements I and II are true.

b. Statements I and III are true.

c. Statements II and III are true.

d. Statements I, II, and III are true.

7. Monopoly and oligopoly are the typical market structures that occur when there are

a. no significant entry barriers.

b. significant entry barriers.

8. In contrast to perfect competition, a monopolist charges a

a. higher price and produces a larger quantity.

b. higher price and produces a smaller quantity.

c. lower price and produces a larger quantity.

d. lower price and produces a smaller quantity.

9. A firm that experiences increasing returns to scale

a. finds that its average total cost of production decreases throughout the relevant region of production.

b. will find it advantageous to produce a relatively large amount of output rather than a relatively small amount of output.

c. will benefit from a larger volume of sales.

d. Answers (a), (b), and (c) are all true.

10. A natural monopoly

a. profit maximizes when it produces the quantity where $MR = MC$.

b. experiences decreasing costs throughout the relevant region of output.

c. is a monopoly whose *ATC* curve declines over the output levels at which price is greater than or equal to average total cost.

d. All of the above statements are true.

11. An industry is characterized by having average total cost that decreases as output increases. In this industry, the output can be produced at the lowest cost if produce(s) the total market output.

a. many identical firms

b. a single firm

c. a large number of firms

d. a few firms

12. An industry is characterized by having average total cost that decreases as output increases. This is due to large

a. variable costs that are more easily borne by a single producer of the good.

b. fixed costs that are more easily borne by a single producer of the good.

c. marginal costs that are more easily borne by a single producer of the good.

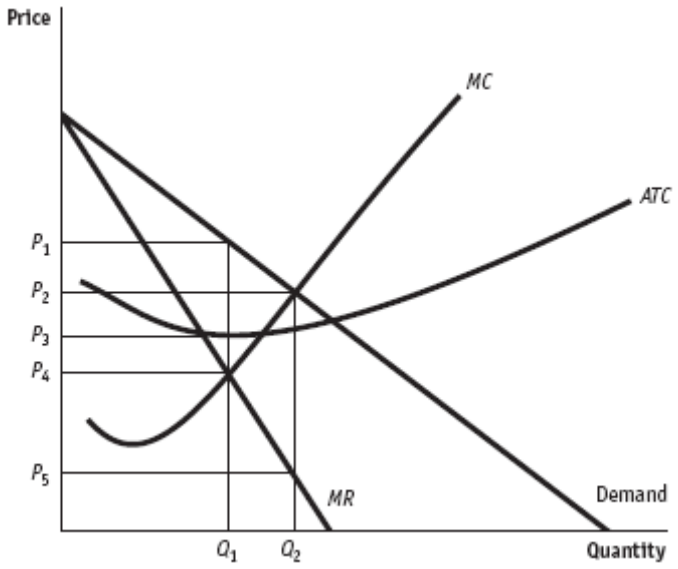
d. fluctuations in revenue that create market instability in the industry, which results in many firms exiting the industry and leaving a single firm to produce the good.

13. A network externality is a situation in which the value of the good as more people use the good.

a. increases

b. decreases

Use the graph of a monopolist below to answer the next four questions.



14. This monopolist will produce the profit-maximizing level of output and sell

each unit for .

a. $Q1$; $P1$. c. $Q2$; $P2$.

b. $Q1$; $P2$. d. $Q1$; $P4$.

15. If this monopolist were to act as if it was a perfectly competitive industry, then it would produce units of the good and charge for each unit.

a. $Q1$; $P2$ c. $Q2$; $P2$

b. $Q1$; $P1$ d. $Q2$; $P5$

16. The deadweight loss associated with this monopoly can be measured as the area

a. $(1/2)(P2 - P4)(Q2 \text{ units} - Q1 \text{ units})$.

b. $(1/2)(P1 - P4)(Q1 \text{ units})$.

c. $(1/2)(P2 - P4)(Q1 \text{ units})$.

d. $(1/2)(P1 - P4)(Q2 \text{ units} - Q1 \text{ units})$.

17. This monopolist earns

a. positive economic profit equal to area $(P1 - P3)(Q1 \text{ units})$.

b. positive economic profit equal to area $(P1 - P4)(Q1 \text{ units})$.

c. negative economic profit equal to area $(P1 - P3)(Q1 \text{ units})$.

d. negative economic profit equal to area $(P1 - P4)(Q1 \text{ units})$.

Answers to Quiz #5 - Week 04/12/2009 to 04/18/2009

Perfect Competition (last section) and Monopoly

Perfect Competition

1. Answer c. In a perfectly competitive industry, the number of firms in the industry is fixed and constant in the short run. Entry of new firms or the exit of existing firms can only occur in the long run. Market equilibrium, whether in the short run or long run, occurs at that price and quantity combination where the quantity demanded equals the quantity supplied. However, in the short run, a constant-cost industry will have an upward-sloping market supply curve because the production of a greater level of output must entail increasing costs due to the diminishing returns to the variable input.

2. Answer d. In the long run, entry or exit will occur in the perfectly competitive industry until all firms in the industry earn zero economic profit. Since all firms earn zero economic profit this implies that all firms are producing at the point where price equals average total cost, which can only occur at the break-even price, since firms must also be producing the profit-maximizing quantity where MR = MC.

3. Answer c. The market supply curve is found by horizontally summing the individual supply curves. The firm's supply curve is given by MC = 2q, provided that the price is greater than the minimum point of the AVC, or in this case provided that the price is equal or greater than $10. So at a price of $10, each firm is willing to produce 5 units, for a total of 10 units. At a price of $20, each firm is willing to produce 10 units, for a total of 20 units. Thus, the industry supply curve is P = Q for outputs greater than or equal to 10 units.

Monopoly

4. Answer e. The monopolist's demand curve is the market demand curve and it is downward sloping. The monopolist's demand curve is not the monopolist's MR curve, however, since for the monopolist the MR curve lies beneath the demand curve.

5. Answer c. Oligopolies are characterized by having just a few firms in the industry. These firms may produce differentiated products or they may produce identical products.

6. Answer a. The first statement is the definition of monopolistic competition. The second statement correctly states the profit-maximizing rule used by perfectly competitive firms when selecting their optimal output level. The third statement is false: monopolies profit maximize when they produce the level of output where MR= MC and then charge the price on their demand curve that is associated with this level of output.

7. Answer b. Entry barriers effectively protect an industry from potential competition from new firms. Entry barriers may be due to government regulation, increasing returns to scale in production, technological superiority, or the control of some essential resource or input.

8. Answer b. Monopolies restrict output and charge consumers higher prices for their product.

9. Answer d. Increasing returns to scale implies that the average cost of producing the good decreases as the level of production increases: the ATC curve is downward sloping throughout the relevant region of production. Thus, firms benefit from producing larger amounts of output (or having larger volumes of sales), since each unit of this output is cheaper on average to produce than would be the case with a smaller level of output.

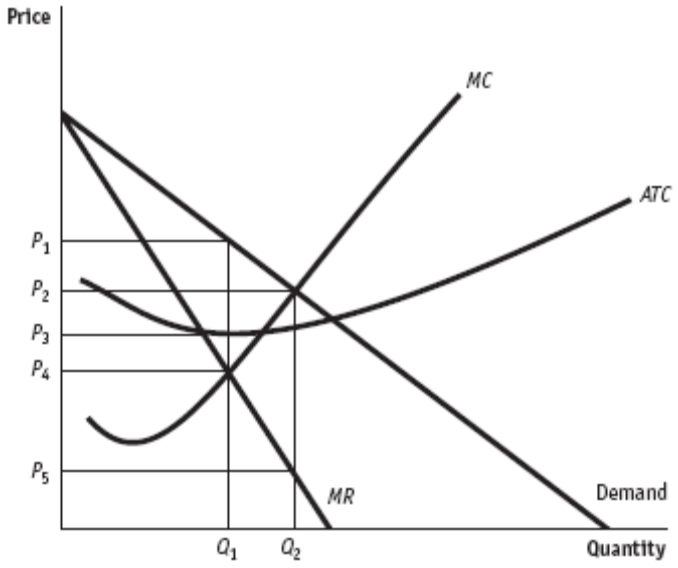
10. Answer d. A natural monopoly has increasing returns to scale over all the levels of output at which price is greater than or equal to average total cost. This implies that as its level of production increases its cost per unit declines. It is cheaper for a single firm to produce the total output for the market than it is for multiple firms to produce this level of total output.

11. Answer b. This industry is a decreasing-cost industry that is best served by having a single producer supply the good, since a single producer can produce the good at the lowest cost.

12. Answer b. When an industry is characterized as having average total cost that decreases as output increases, this is due to large fixed costs that result in larger levels of output being produced at lower cost per unit than smaller levels of output.

13. Answer a. A network externality is a situation where one person's use of a good is enhanced when other people elect to also use the good. This is the result of interconnections or networks existing between the users of the good. The more users of the good, the more networks or connections are created.

14. Answer c. If this monopolist were to act as if it was a perfectly competitive industry, then it would produce the level of output where marginal cost intersected the demand curve, because this would represent the efficient level of output where the marginal cost of the last unit produced equals the price from selling the last unit of the good. It would sell these Q2 units of the good for the price on the demand curve (P2) that is associated with this level of output.



15. Answer a. The monopolist profit maximizes when it produces the level of output where MR = MC and then prices this level of output by charging the price on the demand curve that is associated with this level of output. MR = MC at Q1, and P1 is the price that is associated with Q1 on the demand curve.

16. Answer d. The deadweight loss associated with this monopoly is the area that represents the loss in total surplus due to the market being served by a monopoly instead of a perfectly competitive industry. This surplus loss is the area (1/2) (P1/unit - P4/unit) (Q2 units – Q1 units).

17. Answer a. This monopolist earns positive economic profit since the price it charges for the good (P1) is greater than the average total cost of producing Q1 units of the good. To calculate profits you can use the formula TR - TC = profits, or you can calculate the product of the quantity produced times the difference between the price of each unit and the average total cost of producing these units. Using this latter method, the price of each unit is P1, the average total cost of each unit is P3, and the number of units produced is Q1. Thus, profit is (P1/unit — P3/unit)(Q1 units).