# Final Exam Paper

## Suggested Solutions

1. In the absence of externalities, the "invisible hand" leads a competitive market to maximize

   (a) producer profit from that market.
   (b) **total benefit to society from that market.**
   (c) both equality and efficiency in that market.
   (d) output of goods or services in that market.

2. Which of the following expressions is correct?

   (a) **accounting profit = economic profit + implicit costs**
   (b) accounting profit = total revenue - implicit costs
   (c) economic profit = accounting profit + explicit costs
   (d) economic profit = total revenue - implicit costs

3. Bill operates a boat rental business in a competitive industry. He owns 10 boats and pays $1,000 per month on the loan that he took out to buy them. He rents each boat for $200 per month. The variable cost for each boat rental is $50. In the off season, Bill should

   (a) operate his business as long as he rents at least 7 boats per month.
   (b) **operate his business as long as he rents at least 1 boat per month.**
   (c) operate his business as long as he rents all 10 boats each month.
   (d) raise the price he charges per boat rental.

4. Billy's Bean Bag Emporium produced 300 bean bag chairs but sold only 275 of the units it produced. The average cost of production for each unit of output produced was $100. The price for each of the 275 units sold was $95. Total profit for Billy's Bean Bag Emporium would be

   (a) **-$3,875.**
   (b) $26,125.
   (c) $28,500.
   (d) $30,000.

5. Christine is an artist who creates custom cookie jars. Her annual revenue from selling the cookie jars is $90,000. The annual explicit costs of the materials used to make the cookie jars are $54,000. Christine used $5,000 from her personal savings account to buy pottery tools for her business. The savings account paid 1% annual interest. Christine could earn $6,000 per year as a tax preparer. What is the annual economic profit of her cookie jar business?

   (a) $36,000
   (b) $35,950
   (c) $30,000
   (d) **$29,950**

6. Since the 1980s, Wal-Mart stores have appeared in almost every community in America. Wal-Mart buys its goods in large quantities and, therefore, at cheaper prices. Wal-Mart also builds a network of distribution centers to lower the cost of delivering goods to its stores. Many customers shop at Wal-Mart because of low prices. Local retailers, like the neighborhood drug store, often go out of business as a result. This story demonstrates that

   (a) consumers only care about cheap price and do not care about quality.
   (b) there are diseconomies of scale in retail sales.
   (c) **there are economies of scale in retail sales.**
   (d) there are diminishing returns to producing and selling retail goods.

7. Charles's Math Tutoring Company hires workers to tutor students:

| Number of Workers | Output (number of students tutored per week) |
|---|---|
| 0 | 0 |
| 1 | 20 |
| 2 | 45 |
| 3 | 60 |
| 4 | 70 |

Suppose that company has a fixed cost of $50 per month for Charles's cell phone. Each worker costs Charles $60 per day. As output increases from 45 to 70 students, Charles's total cost curve

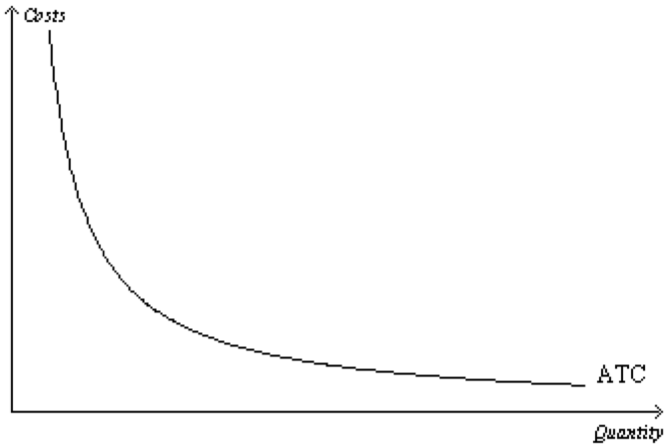
(a) increases but gets flatter.

(b) **increases and gets steeper.**

(c) decreases and gets flatter.

(d) decreases but gets steeper.

8. Consider a firm with the following average total cost curve:




The marginal cost curve for this firm

(a) must lie entirely above the average total cost curve.
(b) **must lie entirely below the average total cost curve**.
(c) must be upward sloping.
(d) does not exist.

9. Why does a firm in a perfectly competitive industry charge the market price?

(a) If a firm charges less than the market price, it loses potential revenue.
(b) If a firm charges more than the market price, it loses all its customers to other firms.
(c) The firm can sell as many units of output as it wants to at the market price.
(d) **All of the above are correct.**

10. A competitive firm's short-run supply curve is part of which of the following curves?

(a) marginal revenue
(b) average variable cost
(c) average total cost
(d) **marginal cost**

11. Which of the following conditions is not necessary for a market to be perfectly competitive in the short run?

    (a) numerous buyers and sellers
    (b) identical goods
    (c) perfect information
    (d) **free entry and exit**

12. Winona's Fudge Shoppe is maximizing profits by producing 1,000 pounds of fudge per day. If Winona's fixed costs unexpectedly increase and the market price remains constant, then the short run profit-maximizing level of output

    (a) is less than 1,000 pounds.
    (b) **is still 1,000 pounds.**
    (c) is more than 1,000 pounds.
    (d) becomes zero.

13. Laura is a gourmet chef who runs a small catering business in a competitive industry. Laura specializes in making wedding cakes. Laura sells 20 wedding cakes per month. Her monthly total revenue is $5,000. The marginal cost of making a wedding cake is $300. In order to maximize profits, Laura should

    (a) make more than 20 wedding cakes per month.
    (b) **make fewer than 20 wedding cakes per month**.
    (c) continue to make 20 wedding cakes per month.
    (d) We do not have enough information to answer the question.

14. Consider a competitive market with 50 identical firms. Suppose the market demand is given by the equation $Q_D = 200 - 10P$ and the market supply is given by the equation $Q_S = 10P$. In addition, suppose the following table shows the marginal cost of production for various levels of output for firms in this market:

| Output | Marginal Cost |
|---|---|
| 0 | |
| 1 | 5 |
| 2 | 10 |
| 3 | 15 |
| 4 | 20 |
| 5 | 25 |

How many units should a firm in this market produce to maximize profit?

(a) 1 unit
(b) **2 units**
(c) 3 units
(d) 4 units

15. In the short run, there are 500 identical firms in a competitive market. The firms do not use any resources that are available in limited quantities, and each of them has the following cost structure:

| Output | Total Cost |
|---|---|
| 0 | \$0 |
| 1 | \$10 |
| 2 | \$12 |
| 3 | \$15 |
| 4 | \$24 |
| 5 | \$35 |

Which of the following is a point on the long-run supply curve?

(a) P=\$10, Q=500.
(b) P=\$6, Q=1,000.
(c) P=\$5, Q=500.
(d) **P=\$5, Q=1,500.**

16. Which of the following industries is least likely to exhibit the characteristic of free entry?

(a) bookstores
(b) hairstyling salons
(c) yoga studios
(d) **satellite radio**

17. Which of the following statements is correct?

(a) For all firms, marginal revenue equals the price of the good.
(b) Only for competitive firms does average revenue equal the price of the good.
(c) Marginal revenue can be calculated as total revenue divided by the quantity sold.
(d) **Only for competitive firms does average revenue equal marginal revenue.**

18. The market for novels is

    (a) perfectly competitive.
    (b) a monopoly.
    (c) **monopolistically competitive**.
    (d) an oligopoly.

19. A monopoly firm has

    (a) downward-sloping demand curve, upward-sloping supply curve
    (b) **downward-sloping demand curve, no supply curve**
    (c) horizontal demand curve, upward-sloping supply curve
    (d) horizontal demand curve, no supply curve

20. For a monopoly,

    (a) **average revenue exceeds marginal revenue.**
    (b) average revenue equals marginal revenue.
    (c) average revenue is less than marginal revenue.
    (d) price equals marginal revenue.

21. If a monopolist has zero marginal costs, it will produce

    (a) **the output at which total revenue is maximized**.
    (b) in the range in which marginal revenue is still increasing.
    (c) at the point at which marginal revenue is at a maximum.
    (d) in the range in which marginal revenue is negative.

22. A monopolist's average revenue is always

    (a) equal to marginal revenue.
    (b) greater than the price of its product.
    (c) **equal to the price of its product.**
    (d) less than the price of its product.

23. Microsoft faces very little competition from other firms for its Windows software. Why isn't the price of the software $1,000 per copy?

    (a) because the government would not allow such a high price

    (b) because stockholders would not allow such a high price

    (c) **because the company would sell so few copies that they would earn higher profits by selling at a lower price**

    (d) All of the above are correct.

24. The deadweight loss associated with a monopoly occurs because the monopolist

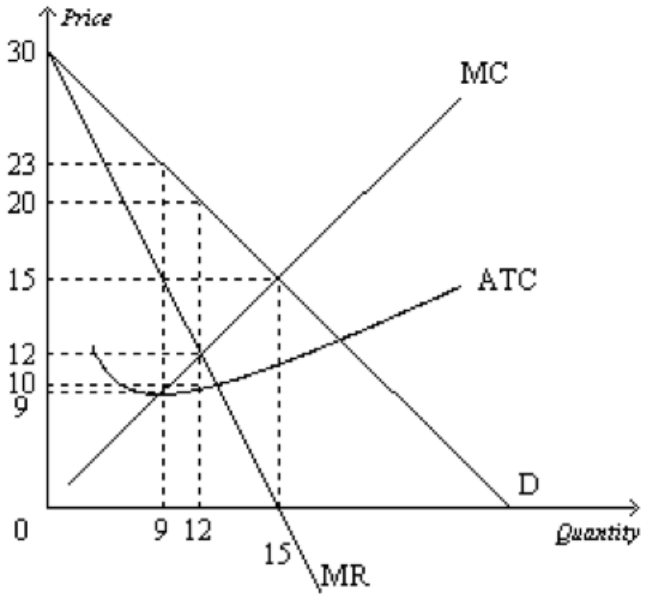
    (a) maximizes profits.

    (b) **produces an output level less than the socially optimal level.**

    (c) produces an output level greater than the socially optimal level.

    (d) equates marginal revenue with marginal cost.

25. Firm A is a monopoly and has the following demand and cost curves:




How much output will firm A produce?

(a) 9
(b) **12**
(c) 15
(d) more than 15

26. What price will firm A charge?

(a) 9
(b) 12
(c) **20**
(d) 23

27. What is firm A's profit?

    (a) 96
    (b) 117
    (c) **120**
    (d) 126

28. Suppose the government imposes a $15 price ceiling on firm A. What is the deadweight loss created by the firm under this price ceiling?

    (a) **0**
    (b) 6
    (c) 12
    (d) 60

29. The following table provides information on the price, quantity, and average total cost for a monopoly.

| Price | Q | ATC |
|---|---|---|
| 24 | 0 | |
| 18 | 5 | 14 |
| 12 | 10 | 11 |
| 6 | 15 | 10.67 |
| 0 | 20 | 11 |

    At what price will the monopolist maximize his profit?

    (a) $6
    (b) $12
    (c) **$18**
    (d) $24

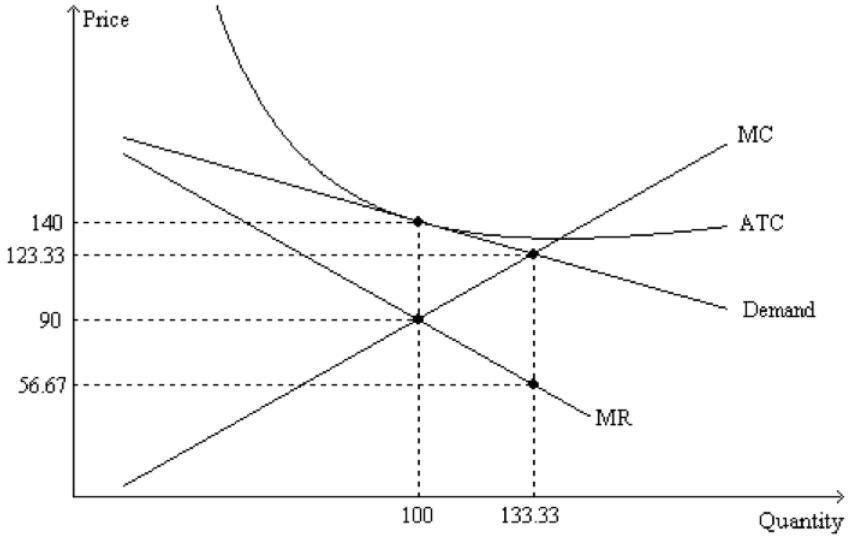
30. Which of the following conditions is characteristic of a monopolistically competitive firm in long-run equilibrium?

    (a) P $>$ MR and P $=$ MC
    (b) **P $=$ ATC and MR $=$ MC**
    (c) P $=$ ATC $<$ MC
    (d) P $>$ ATC and P $>$ MR

31. As firms exit a monopolistically competitive market, profits of remaining firms

    (a) decline, and product diversity in the market decreases.
    (b) decline, and product diversity in the market increases.
    (c) **rise, and product diversity in the market decreases.**
    (d) rise, and product diversity in the market increases.

32. Firm B is a monopolistically-competitive firm and has the following demand and cost curves:




As the figure is drawn, the firm is in

(a) a short-run equilibrium but it is not in a long-run equilibrium.

(b) a long-run equilibrium but it is not in a short-run equilibrium.

(c) **a short-run equilibrium as well as a long-run equilibrium.**

(d) neither a short-run equilibrium nor a long-run equilibrium.

33. Given firm B's cost curves, if the firm were perfectly competitive rather than monopolistically competitive, then in a long-run equilibrium it would produce

(a) less than 100 units of output.

(b) between 100 and 133.33 units of output.

(c) 133.33 units of output.

(d) **more than 133.33 units of output.**

34. A monopolistically competitive firm faces the following demand curve for its product:

| P | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | 2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

The firm has total fixed costs of $120 and a constant marginal cost of $12 per unit. We can conclude that

(a) firms will exit this market.
(b) firms will enter this market.
(c) **this market is in long-run equilibrium.**
(d) this firm is operating at its efficient scale.

35. A firm has the following cost structure:

| Output | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|
| Total Cost | 60 | 64 | 72 | 84 | 100 | 126 | 154 |

If this firm is in a typical monopolistically competitive market, in the long run it will likely produce

(a) **8 or fewer units of output.**
(b) 10 units of output.
(c) more than 10 units of output.
(d) None of the above are necessarily correct because there is not enough information to tell.

36. In a long-run equilibrium,

(a) **only a perfectly competitive firm operates at its efficient scale.**
(b) only a monopolistically competitive firm operates at its efficient scale.
(c) neither a competitive firm nor a monopolistically competitive firm charges a markup over marginal cost.
(d) both a perfectly competitive firm and a monopolistically competitive firm operate at their efficient scale of production.

37. For a firm to price discriminate,

    (a) it must be a natural monopoly.

    (b) it must be regulated by the government.

    (c) **it must have some market power.**

    (d) consumers must tell the firm what they are willing to pay for the product.

38. Black Box Cable TV is able to purchase an exclusive right to sell a premium movie channel (PMC) in its market area. Let's assume that Black Box Cable pays $150,000 a year for the exclusive marketing rights to PMC. Since Black Box has already installed cable to all of the homes in its market area, the marginal cost of delivering PMC to subscribers is zero. The manager of Black Box needs to know what price to charge for the PMC service to maximize her profit. Suppose there are two types of subscribers who value premium movie channels. First are the 4,000 die-hard TV viewers who will pay as much as $150 a year for the new PMC premium channel. Second, the PMC channel will appeal to 20,000 occasional TV viewers who will pay as much as $20 a year for a subscription to PMC.

    If Black Box Cable TV is unable to price discriminate, what price will it choose to maximize its profit, and what is the amount of the profit?

    (a) price = $20; profit = $400,000

    (b) price = $20; profit = $330,000

    (c) **price = $150; profit = $450,000**

    (d) price = $150; profit = $600,000

39. If Black Box Cable TV is able to price discriminate, what would be the maximum amount of profit it could generate?

    (a) $500,000

    (b) $600,000

    (c) **$850,000**

    (d) $925,000

40. What is the deadweight loss associated with Black Box Cable TV's non-discriminating pricing policy compared to its price discriminating policy?

    (a) $375,000
    (b) **$400,000**
    (c) $475,000
    (d) It cannot be determined from the information provided.

41. Which of the following statements is not correct?

    (a) Search friction exists due to a lack of perfect information.
    (b) In the presence of search friction, markets do not clear, in the sense that there are both buyers who want to buy and sellers who want to sell who are unable to meet.
    (c) **The Beveridge curve shifts up when the economy is booming and shifts down when the economy is not doing well.**
    (d) Unemployment increase due to shifts in the Beveridge curve is often referred to as structural unemployment.

42. Firing costs are costs that companies have to pay when they fire workers. In some countries, the government imposes high firing costs on firms. For example, in Spain, before 1997, companies were required to pay fired workers a severance payment equal to at least 20 days of salary. This has the effect of decreasing the incentive of firms to create job vacancies. In 1997, the Spanish labor reform significantly lowered firms' firing costs. What does the search-matching model tell us about the possible effects of such a reform?

    (a) equilibrium wage goes up; vacancy rate goes up; unemployment rate goes up
    (b) **equilibrium wage goes up; vacancy rate goes up; unemployment rate goes down**
    (c) equilibrium wage goes up; vacancy rate goes down; unemployment rate goes up
    (d) equilibrium wage goes down; vacancy rate goes down; unemployment rate goes up
    (e) equilibrium wage goes down; vacancy rate goes up; unemployment rate goes down
    (f) equilibrium wage goes down; vacancy rate goes down; unemployment rate goes down

43. For signaling to be effective, the signal must be

    (a) more costly and beneficial to the high-quality person
    (b) more costly and beneficial to the low-quality person
    (c) **less costly or more beneficial to the high-quality person**
    (d) less costly or more beneficial to the low-quality person

44. Individuals who purchase insurance tend to be the ones who have higher-risk. This is a problem of

    (a) Moral hazard
    (b) **Adverse selection**
    (c) Negative externality
    (d) Deadweight loss

45. Individuals who have health insurance tend to over-use health services. This is a problem of

    (a) **Moral hazard**
    (b) Adverse selection
    (c) Negative externality
    (d) Deadweight loss

46. Woody, Eason, Kevin and Jay want to have a haircut. Each of them is willing to pay, respectively, \$7, \$2, \$8, \$5. There are 4 barbers: M, N, P, Q. Each charges, respectively, \$3, \$6, \$4, \$2, and will only serve one customer. Suppose you are in charge of deciding who should have a haircut at which barber shop. In order to maximize social welfare, who do you arrange to have a haircut? Which barbers should take the business?

    (a) **Customers: Woody, Kevin, Jay; Barbers: M, P, Q**
    (b) Customers: Woody, Eason, Kevin, Jay; Barbers: M, N, P, Q
    (c) Customers: Eason, Woody, Jay; Barbers: M, N, P
    (d) Customers: Woody, Kevin, Jay; Barbers: M, N, P

47. John is a famous writer. He has just finished a book. A publisher wants to publish John's book and is willing to pay John a royalty in the form of $\$x$ per book. The publisher's marketing department determines that the demand for the book is

$$P = 44 - \frac{1}{2500}Q$$

The publisher can produce the book with no fixed cost and a variable cost of \$4 per book. If you are John's agent, how much would you advise John to demand from the publisher for each book sold (i.e. what is the value $x$ that maximizes John's profit)?

(a) \$15
(b) **\$20**
(c) \$25
(d) \$30

48. If a boy says "I love you" to a girl, He is _____. If a girl askes a boy to say "I love you" to her, she is _____.

(a) Signaling; Signaling
(b) **Signaling; Screening**
(c) Screening; Signaling
(d) Screening; Screening

49. A monopoly firm has 0 marginal cost of production. What is the elasticity of demand faced by this firm at its profit-maximizing quantity?

(a) 0.5
(b) 2
(c) **1**
(d) 3

50. A monopoly faces a linear demand curve whose vertical intercept is 10. The monopoly sells its product at $P = 6$. What is its marginal cost at the profit-maximizing quantity?

(a) **\$ 2**
(b) \$ 3
(c) \$ 4
(d) \$ 5