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2000 AP® Microeconomics

Released Exam

Multiple-Choice Section

2000

Micro

MICROECONOMICS

Section I

Time—70 minutes

60 Questions

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding oval on the answer sheet.

1. The basic economic problem of all countries is the existence of

   (A) tax increases and budget deficits
   (B) limited resources and unlimited wants
   (C) unemployment and inflation
   (D) government and private industry
   (E) unions and monopoly firms

2. Assume that popcorn and movie attendance are complements and that Salty Concession grows corn suitable for popping. Mr. Concession will most likely sell a greater quantity of popping corn at a higher price if which of the following occurs?

   (A) The wages of farm workers and movie theater employees increase.
   (B) A technological improvement results in less expensive and more efficient harvesting of corn.
   (C) The introduction of new fat-free potato chips provides new competition in the snack-food market.
   (D) The release of three summer movies sets records for movie attendance.
   (E) New government regulations force movie theaters to hire more security guards at each theater.

3. In a perfectly competitive market, which of the following shifts in the supply and demand curves will definitely cause both the equilibrium price and quantity to decrease?

	Supply Curve	Demand Curve
(A)	Shifts to the left	Shifts to the left
(B)	Shifts to the left	No shift
(C)	Shifts to the right	Shifts to the right
(D)	No shift	Shifts to the right
(E)	No shift	Shifts to the left

4. If bologna is an inferior good, which of the following must be true?

   (A) The demand curve for bologna is vertical.
   (B) The demand curve for bologna is horizontal.
   (C) An increase in the price of bologna will decrease the supply of bologna.
   (D) An increase in consumer income will decrease the demand for bologna.
   (E) A decrease in consumer income will decrease the supply of bologna.

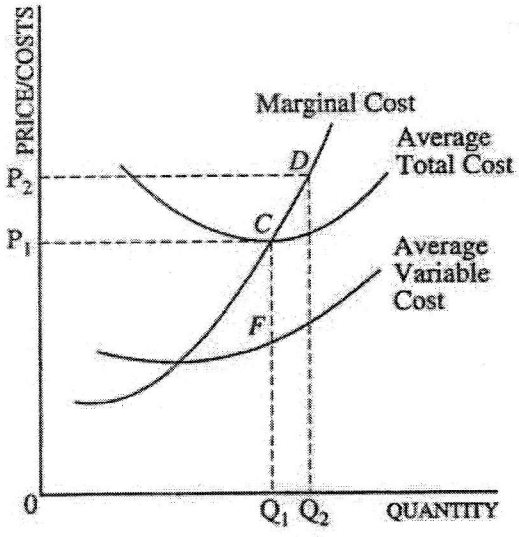
5. Which of the following events will cause the demand curve for hamburgers to shift to the right?

   (A) An increase in the price of pizza, a substitute for hamburgers
   (B) An increase in the price of french fries, a complement to hamburgers
   (C) An increase in the price of hamburgers
   (D) A decrease in the price of hamburgers
   (E) A decrease in the cost of producing hamburgers

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Questions 6-7 refer to the graph below, which shows the cost curves for a profit-maximizing, perfectly competitive firm.



6. The vertical distance *CF* represents the
   (A) total cost of producing Q_1 units of output
   (B) average total cost of producing Q_1 units of output
   (C) average fixed cost of producing Q_1 units of output
   (D) average variable cost of producing Q_1 units of output
   (E) amount of the firm's loss resulting from producing Q_1 units of output

7. If marginal revenue is equal to P_1, all of the following statements are true EXCEPT:
   (A) Total revenue will equal total costs.
   (B) The firm will produce Q_1 units of output.
   (C) The firm will produce the efficient level of output.
   (D) The firm will earn a normal profit.
   (E) The firm will increase production in the long run.

8. Which of the following best describes a perfectly competitive market?
   (A) Many small firms producing differentiated products and facing significant barriers to entry
   (B) Many small firms producing a homogeneous product and facing significant barriers to entry
   (C) Many small firms producing a homogeneous product and facing no significant barriers to entry
   (D) A single large firm producing a unique product and facing significant barriers to entry
   (E) A few large firms producing a differentiated product and facing no significant barriers to entry

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9. Assume that a competitive industry producing a normal good is in long-run equilibrium. If average consumer income decreases, which of the following changes will occur?

	Short-Run Price	Short-Run Industry Output	Movement of Firms
(A)	Increase	Increase	Enter
(B)	Increase	Decrease	Exit
(C)	Decrease	Increase	Exit
(D)	Decrease	Decrease	Enter
(E)	Decrease	Decrease	Exit

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10. Which of the following statements is true for a monopolist at the profit-maximizing output level?
    (A) Price exceeds marginal revenue.
    (B) Marginal cost exceeds price.
    (C) Demand is price inelastic.
    (D) Price equals marginal cost, which equals average total cost.
    (E) The demand curve intersects the supply curve.

11. If a normal good is produced in a competitive market, which of the following combinations of events could cause the price of the good to increase and the quantity to decrease?
    (A) An increase in the average income of consumers and an increase in the number of producing firms
    (B) An increase in the average income of consumers and an increase in the price of a variable input
    (C) An increase in the price of a substitute good and an increase in the number of producing firms
    (D) A decrease in the number of consumers and a decrease in the price of a variable input
    (E) A decrease in the average income of consumers and an increase in the number of producing firms

12. Monopolies are inefficient compared to perfectly competitive firms because monopolies
    (A) produce output with average total cost exceeding average revenue
    (B) produce more output than is socially desirable
    (C) charge a price less than marginal revenue
    (D) charge a price greater than marginal cost
    (E) charge a price less than average total cost

13. An individual's labor supply curve is derived from that person's preferences about the trade-off between income and
    (A) work
    (B) wealth
    (C) nominal wages
    (D) productivity
    (E) leisure

14. A profit-maximizing firm will hire
    (A) labor until its wage rate equals its average revenue product
    (B) labor until its wage rate equals its marginal revenue product
    (C) labor until its wage rate equals the interest rate
    (D) capital until the interest rate equals the wage rate
    (E) capital until the interest rate exceeds the wage rate

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15. A chemical plant pollutes a river that serves as the water supply for a nearby town. From an economist's point of view, pollution from the plant should be reduced until the

(A) marginal benefit from cleaner water is equal to the marginal cost of making the water cleaner
(B) marginal benefit from cleaner water is maximized
(C) marginal benefit from cleaner water is zero
(D) total benefit from cleaner water is equal to the total cost of making the water cleaner
(E) total benefit from cleaner water is maximized

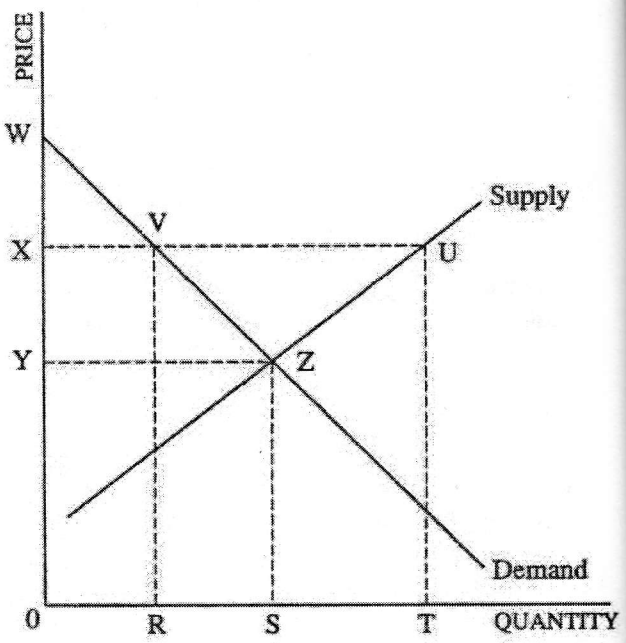
16. All of the following are included in computing the opportunity cost of attending college EXCEPT

(A) interest paid on student loans
(B) wages the student gave up to attend college
(C) money spent on college tuition
(D) money spent on clothing expenses
(E) money spent on books and supplies

17. A country can consume beyond its present production possibilities curve when it

(A) trades with other countries, thus taking advantage of different opportunity costs
(B) reduces unemployment, thus increasing output
(C) experiences decreasing opportunity costs
(D) faces an upward-sloping production possibilities curve
(E) faces a downward-sloping production possibilities curve

Questions 18-19 refer to the graph below. The market is currently in equilibrium.



18. In a competitive equilibrium, consumer surplus is the area of

(A) UVZ
(B) WYZ
(C) RVUT
(D) XVZY
(E) 0YZS

19. If a price floor is set at X, the quantity demanded will

(A) increase from 0R to 0S
(B) increase from 0R to 0T
(C) decrease from 0S to 0R
(D) decrease from 0T to 0R
(E) not change

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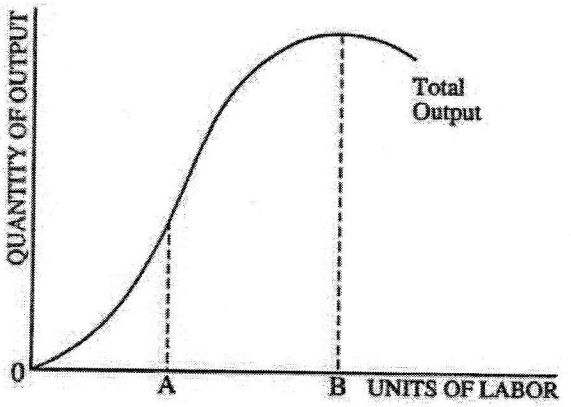
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20. Which of the following must be true if the revenues of wheat farmers increase when the price of wheat increases?
(A) The supply of wheat is price elastic.
(B) The supply of wheat is income elastic.
(C) The supply of wheat is income inelastic.
(D) The demand for wheat is price elastic.
(E) The demand for wheat is price inelastic.

21. The demand curve for a normal good slopes down for which of the following reasons?

I. An increase in the price of the good induces consumers to purchase substitute products.
II. An increase in the price of the good reduces consumers' purchasing power.
III. An increase in the price of the good increases consumers' utility from consuming that good.

(A) I only
(B) II only
(C) III only
(D) I and II only
(E) I and III only



22. The relationship in the graph above best illustrates the economic concept of
(A) opportunity cost
(B) diminishing marginal utility in consumption
(C) diminishing marginal returns in production
(D) production possibilities
(E) comparative advantage

23. Which of the following statements is true for a perfectly competitive firm but not true for a monopoly?
(A) The firm's price is equal to its average revenue.
(B) The firm cannot affect the market price for its good.
(C) It is difficult for other firms to enter the industry.
(D) The demand for the firm's product is unit elastic.
(E) The firm must lower its price in order to sell more of its product.

24. If a perfectly competitive industry were monopolized without any changes in cost conditions, the price and quantity produced would change in which of the following ways?

	Price	Quantity
(A)	Increase	Increase
(B)	Increase	Decrease
(C)	Increase	May increase or decrease
(D)	Decrease	Increase
(E)	Decrease	Decrease

25. In a perfectly competitive industry, the market price of the product is $12. A firm produces at a level of output where average total cost is $16, marginal cost is $16, and average variable cost is $8. To maximize its profit, the firm should
(A) decrease its selling price
(B) increase its selling price
(C) decrease output but keep producing
(D) shut down
(E) leave both price and output unchanged

26. When a perfectly competitive firm sells additional units of output, its total revenue will
(A) remain constant
(B) increase rapidly at first, then decline
(C) increase at a decreasing rate
(D) increase at an increasing rate
(E) increase at a constant rate

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27. Antitrust legislation is designed to make it illegal for a firm to monopolize an industry. Which of the following best states the economic rationale for this legislation?

(A) A monopolist produces too little of the good, producing an output that minimizes the average cost of production.
(B) A monopolist produces too little of the good, charging consumers a price that exceeds the marginal cost of production.
(C) A monopolist is more likely to pollute the environment than are firms in a competitive industry.
(D) A monopolist engages in price discrimination, charging low-income people with elastic demand curves a higher price than that charged to high-income people with inelastic demand curves.
(E) A monopolist produces too much of a good, attracting scarce factors of production that might be better utilized in other industries.

28. If the price for a product produced in a competitive market increases, which of the following is most likely to occur in the labor market for workers who produce that product?

(A) The demand for labor and the number of workers hired both increase.
(B) The supply of labor and the number of workers hired both increase.
(C) The demand for labor and the number of workers hired both decrease.
(D) The supply of labor and the number of workers hired both decrease.
(E) There is a movement along the demand for labor curve, and firms hire more workers.

29. A factor of production will NOT earn economic rent when its supply is

(A) elastic
(B) inelastic
(C) unit elastic
(D) perfectly elastic
(E) perfectly inelastic

30. Whenever the production of a good creates negative externalities, an unregulated market will result in

(A) too little of the good being produced
(B) an optimal amount of the good being produced as long as the market is perfectly competitive
(C) society's marginal cost being higher than the firm's marginal cost
(D) the firm's marginal cost being higher than society's marginal cost
(E) the firm's marginal cost being equal to society's marginal cost

31. The chart below shows the number of resource units the countries Gamma and Omega must use to produce one unit of food or one unit of clothing.

	Gamma	Omega
Food	10 resource units	5 resource units
Clothing	9 resource units	3 resource units

Which of the following statements is true according to the chart above?

(A) Trade should take place, with Gamma specializing in clothing production and Omega specializing in food production.
(B) Trade should take place, with Gamma specializing in food production and Omega specializing in clothing production.
(C) Each country should devote half of its resources to food production and half to clothing production and not trade.
(D) Since Omega can produce both food and clothing using fewer resources than Gamma, it cannot benefit from trade with Gamma.
(E) Since Gamma can produce both food and clothing using fewer resources than Omega, it cannot benefit from trade with Omega.

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32. The table below represents points on an economy's current production possibilities curve.

Good X	Good Y
1,000	0
990	100
980	200
970	300

The opportunity cost of increasing the production of good Y from 0 to 200 is

(A) 1,000 units of X
(B) 980 units of X
(C) 200 units of X
(D) 20 units of X
(E) 5 units of X

33. Which of the following situations best illustrates the law of demand?

(A) As real incomes of United States citizens have decreased over the past year, the demand for housing has also decreased.
(B) Recent decreases in the price of imported wine have led to an increase in the consumption of domestic wine.
(C) In the past several months, as the price of compact disc players has decreased, the quantity of compact disc players sold has increased.
(D) The increase in the price of quality health foods has increased the revenues of firms producing these goods.
(E) As the demand for computers has increased, the number of workers in the computer industry has increased.

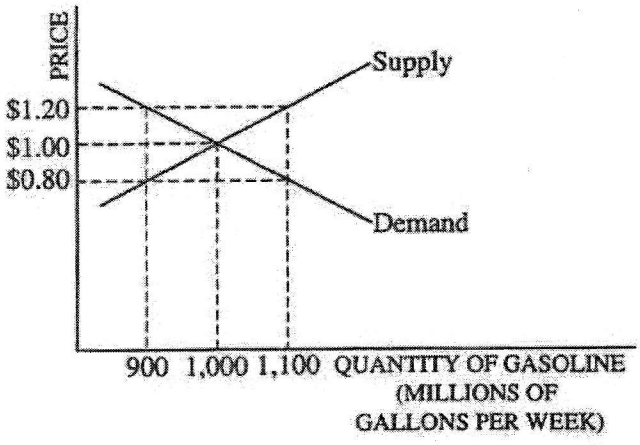
34. The following chart shows the total utility that Juan receives from consuming various amounts of chocolate candy bars each day.

Number of Candy Bars Consumed per Day	Total Utility
0	0
1	40
2	70
3	90
4	100
5	80

Which of the following statements about Juan's marginal utility is correct?

(A) His marginal utility from the first candy bar is greater than his marginal utility from the second candy bar.
(B) His marginal utility from the fourth candy bar is greater than his marginal utility from the third candy bar.
(C) His marginal utility increases at a constant rate.
(D) He first experiences diminishing marginal utility with the consumption of the fifth candy bar.
(E) His greatest marginal utility comes from his consumption of the fourth candy bar.

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35. The graph above shows the supply and demand curves for gasoline. Which of the following will occur if the government establishes a price ceiling of $1.20 per gallon?

(A) A shortage of 900 million gallons
(B) A shortage of 200 million gallons
(C) A shortage of 100 million gallons
(D) A surplus of 100 million gallons
(E) Neither a surplus nor a shortage

Quantity	Marginal Cost	Fixed Cost
0	—	20
1	15	—
2	10	—
3	15	—

36. According to the table above, which shows the costs of production for a firm, the average total cost of producing 3 units of output is

(A) 5.00
(B) 11.67
(C) 13.33
(D) 15.00
(E) 20.00

37. In the short run, a decrease in production costs of a product will shift

(A) both the demand curve and the supply curve to the right
(B) the demand curve to the left and the supply curve to the right
(C) only the supply curve to the right
(D) only the supply curve to the left
(E) only the demand curve to the left

38. A perfectly competitive firm, earning economic profits, produces and sells 100 units of output at a price of $20 per unit. If its marginal cost of increasing output to a rate of 101 units is $18, which of the following statements is correct?

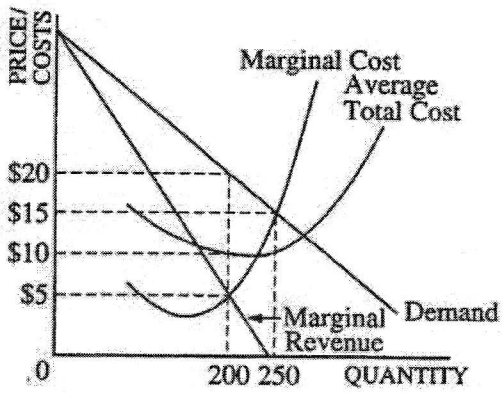
(A) The total revenue from selling 101 units is the same as the total revenue from selling 100 units.
(B) The total profit from selling 101 units is $2 greater than the total profit from selling 100 units.
(C) The total cost of producing 101 units is $2 greater than the total cost of producing 100 units.
(D) To sell 101 units, the firm must reduce its price below $20.
(E) To sell 101 units, the firm must raise its price above $20.

39. In the short run in perfect competition, the industry's demand curve and a firm's demand curve have which of the following slopes?

	Industry's Demand Curve	Firm's Demand Curve
(A)	Horizontal	Downward sloping
(B)	Horizontal	Horizontal
(C)	Downward sloping	Horizontal
(D)	Downward sloping	Downward sloping
(E)	Vertical	Horizontal

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40. Which of the following statements about the firm whose cost and revenue curves are shown above is correct?

(A) Its profit-maximizing price is $5.
(B) Its profit-maximizing output level is 200 units.
(C) Its maximum profit is $4,000.
(D) If it produces 250 units, it will earn no economic profits.
(E) At the profit-maximizing level of output, its total cost is $1,000.

41. Interdependence among firms is a characteristic primarily associated with

(A) labor markets
(B) perfect competition
(C) monopsony
(D) oligopoly
(E) monopoly

42. Monopolistically competitive firms are inefficient because they

(A) produce a lower level of output at a higher average cost than do perfectly competitive firms
(B) use production processes that are more capital-intensive than do perfectly competitive firms
(C) face downward-sloping demand curves, ensuring that marginal revenue is greater than average revenue
(D) produce at that level of output where price equals marginal cost
(E) realize diseconomies of scale

43. In a perfectly competitive labor market for nurses, all of the following statements are true EXCEPT:

(A) The imposition of an effective minimum wage will result in unemployment.
(B) An increase in the marginal product of nurses will increase the demand for nurses and increase wages.
(C) An increase in the supply of nurses will create unemployment and leave wages unchanged.
(D) An increase in the demand for health care will increase the demand for nurses and increase wages.
(E) Revoking work permits for foreign nurses will increase wages of domestic nurses.

44. For a certain firm, the marginal revenue product for the last unit of labor is $60, and the marginal revenue product for the last unit of capital is $100. Which of the following combinations of factor prices would be necessary for the firm to maximize profits?

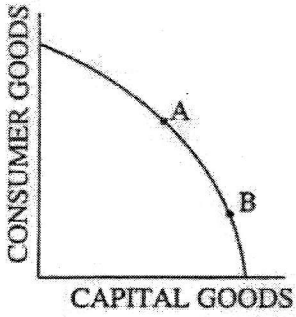
	Price of Labor	Price of Capital
(A)	$ 2	$ 5
(B)	$ 3	$ 20
(C)	$10	$ 10
(D)	$ 2	$ 25
(E)	$60	$100

45. In the United States, the federal government redistributes income primarily by

(A) setting up planning commissions to set wage rates
(B) taxing different income levels at different rates
(C) guaranteeing every person a minimum income through minimum-wage laws
(D) providing the same goods and services to all citizens
(E) relocating and retraining structurally unemployed people

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46. The diagram above shows an economy's current production possibilities curve for capital goods and consumer goods. If society chooses point B over point A, society is choosing

(A) more future consumption in exchange for less current consumption
(B) more current capital goods in exchange for less future consumption
(C) more future and current consumption
(D) less future consumption in exchange for more current consumption
(E) less current capital goods in exchange for greater future consumption

47. Which of the following is true in the elastic range of a firm's demand curve?

(A) The firm should expand output to increase economic profits.
(B) An increase in price will also lead to an increase in total cost.
(C) A decrease in price will likely lead to an increase in total revenue.
(D) Marginal revenue is negative.
(E) The firm is maximizing total revenue.

48. The supply curve for automobiles will shift to the left in response to

(A) an increase in the efficiency of robot technology
(B) an increase in wages in the automobile industry
(C) a decrease in the number of consumers purchasing automobiles
(D) a decrease in the interest rates for automobile loans
(E) a decrease in consumers' income

49. An increase in which of the following will most likely result in a long-run surplus of a product?

(A) The number of suppliers of the product
(B) A price that is set by law above the equilibrium price
(C) The demand for the product
(D) The costs of resources used to produce the product
(E) The future expected price of the product

50. Suppose that a consumer purchases two goods X and Y and that the marginal utility of X is MU_x, the total utility of X is TU_x, the marginal utility of Y is MU_y, and the total utility of Y is TU_y. If the prices of X and Y are P_x and P_y, respectively, which of the following expressions defines consumer equilibrium?

(A) $TU_x = TU_y$
(B) $MU_x = MU_y$
(C) $TU_x / P_x = TU_y / P_y$
(D) $MU_x / P_x = MU_y / P_y$
(E) $(MU_x)(P_x) + (MU_y)(P_y) = 1$

51. Assume that total fixed costs are \$46, that the average product of labor is 5 units when 10 units of output are produced, and that the wage rate is \$12. If labor is the only variable input, what is the average total cost of producing 10 units of output?

(A) \$ 2
(B) \$ 5
(C) \$ 7
(D) \$ 9
(E) \$12

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52. Which of the following best explains why it is difficult to maintain lasting collusive agreements?

(A) There is an unavoidable conflict in that a collusive agreement can increase the profits of some, but not all, firms in the industry.
(B) There is little potential for gain from collusion unless there is a large number of consumers in the market.
(C) Each firm in the industry views itself as facing a vertical demand curve, even though the market demand curve is downward sloping.
(D) The firms in the industry have a common incentive to increase output to a more competitive level.
(E) Each firm realizes that its profits would increase if it were the only firm to violate the collusive agreement by increasing its production slightly.

53. If labor is the only variable input and it costs \$15 per hour and if the marginal product of labor is 3 units per hour, the short-run marginal cost of 1 unit of output is approximately

(A) \$ 0.20
(B) \$ 3.00
(C) \$ 5.00
(D) \$15.00
(E) \$45.00

54. If a perfectly competitive firm wishes to maximize profits and is producing where price exceeds both marginal cost and average variable cost, then the firm is

(A) producing too little output
(B) producing where its marginal revenue is less than its marginal cost
(C) using too much of the variable input
(D) charging too high a price for its output
(E) not earning any economic profits

55. ABC Limited, Inc., sells its product in a perfectly competitive market for a price of \$15 per unit and hires workers at a daily wage of \$75. Labor is the only factor cost, and the firm is currently earning profits. If ABC hires one more worker and output increases by 5 units per day, the firm's profits will

(A) decrease by \$5
(B) decrease by \$75
(C) increase by \$75
(D) increase by \$15
(E) remain unchanged

56. The condition for allocative efficiency is violated when

(A) firms are price makers (price searchers)
(B) short-run profits exist in a competitive industry
(C) price equals average total cost
(D) the market demand curve is inelastic in a competitive industry
(E) the market demand curve is elastic in a competitive industry

57. In which of the following cases is the government's action appropriate for reducing inefficiency?

(A) Taxation of the output of a chocolate factory that emits an aroma that residents of the city enjoy
(B) Regulation that reduces the output of a monopoly
(C) A lump-sum tax on a monopolist
(D) A subsidy for the consumption of a good produced by a plant that emits a pollutant as a by-product
(E) A toll on a congested bridge

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58. The concept of derived demand is described by which of the following?

(A) A decrease in the demand for theater tickets will decrease the demand for actresses and actors.
(B) If the salaries of basketball players increase, the quantity of basketball players demanded will decrease.
(C) An increase in the income of consumers will increase the demand for opera tickets.
(D) An increase in the demand for movie tickets will decrease the demand for video rentals.
(E) A decrease in the price of movie tickets will increase the demand for movie tickets.

59. Which of the following is the best example of a negative externality?

(A) An increase in the price of oil due to the imposition of environmental regulations
(B) An increase in the price of oil due to action taken by the Organization of Petroleum Exporting Countries (OPEC)
(C) A decline in oil stock prices as a result of bad management
(D) Oil leakages from drilling platforms in the Gulf of Mexico
(E) Declining restrictions on the importation of foreign-made cars

60. Private supply of public goods is most likely to result in

(A) less than the efficient level of output, due to the free-rider problem
(B) less than the efficient level of output, due to the problem of insufficient competition
(C) more than the efficient level of output, due to lower costs of private firms
(D) more than the efficient level of output, due to the existence of externalities
(E) an overuse of these goods

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2000 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS

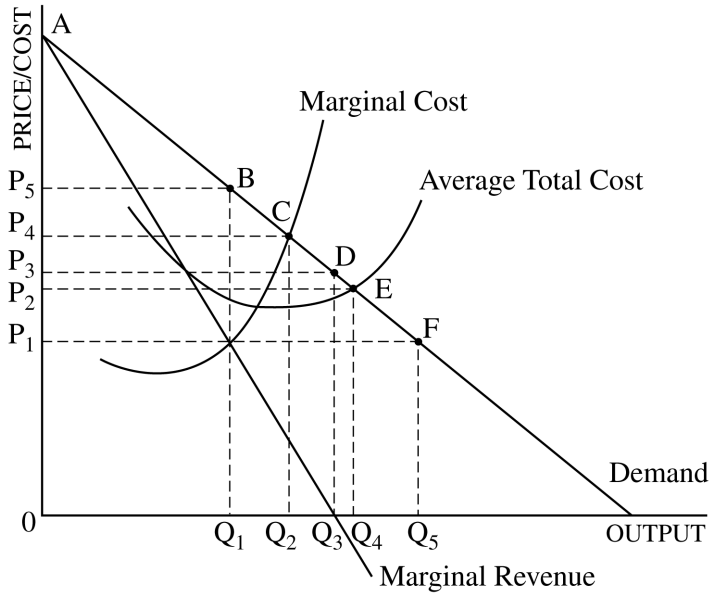
MICROECONOMICS

Section II

Planning time—10 minutes

Writing time—50 minutes

Directions: You have fifty minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes.



1. The diagram above shows the cost and revenue curves for a monopoly.
   (a) How does a monopolist determine its profit-maximizing level of output and price?
   (b) Using the information in the graph, identify each of the following for the monopolist.
      (i) The profit-maximizing level of output and price
      (ii) The line segment of the demand curve that is elastic
   (c) Suppose that the industry depicted in the graph became perfectly competitive without changing the demand or cost curves. Identify the equilibrium price and output that would prevail in the perfectly competitive market.
   (d) Using the information in the graph, identify the area of consumer surplus for each of the following.
      (i) The profit-maximizing monopoly
      (ii) The perfectly competitive industry
   (e) Define allocative efficiency.
   (f) To be allocatively efficient, what level of output should the monopolist produce?
   (g) Should the government use a per-unit tax or a per-unit subsidy to lead the monopolist to produce the allocatively efficient level of output? Explain how this tax or subsidy would achieve the allocatively efficient level of output.

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2. Assume that a firm produces output using one fixed input, capital, and one variable input, labor. The firm can sell all of the output it produces at a market price of $3 each, can hire all of the workers it wants at a market wage rate of $11 each, and has fixed costs of $10. It faces the following production schedule.

Number of Employees	Total Output
0	0
1	14
2	26
3	35
4	42
5	46
6	48

(a) In what kind of market structure does this firm sell its output? How can you tell?

(b) In what kind of market structure does this firm hire its employees? How can you tell?

(c) Using marginal revenue product analysis, how many employees should this firm hire to maximize short-run profits? How can you determine that?

(d) Based on your answer in part (c), how many units of output will this firm produce?

(e) At the level of output you identified in part (d), is the firm earning an economic profit, a normal profit, or suffering a loss? How can you tell?

3. Assume all of the following about imported and domestically produced shoes.

- They are sold in two separate and perfectly competitive markets.
- They are close substitutes.
- The demand for both is price elastic.

Now assume that a tariff is imposed on imported shoes.

(a) Using a correctly labeled graph, show the impact of the tariff on each of the following in the market for imported shoes.

(i) Price

(ii) Output

(b) Using a new correctly labeled graph, show the impact of the tariff on each of the following in the market for domestically produced shoes.

(i) Price

(ii) Output

(c) Given that the demand for imported shoes is price elastic, will expenditures on imported shoes by consumers increase, decrease, or remain the same? How do you know?

END OF EXAMINATION

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Chapter III Answers to the 2000 AP Microeconomics Examination

- Section I: Multiple Choice
  - Section I Answer Key and Percent Answering Correctly
- Section II: Free Response
  - Comments from the Chief Faculty Consultant
  - Scoring Guidelines, Sample Student Responses, and Commentary
  - Question 1
  - Question 2
  - Question 3

Section I: Multiple Choice

Listed below are the correct answers to the multiple-choice questions and the percentage of AP candidates who answered each question correctly by AP grade, and the total percentage answering correctly.

Section I Answer Key and Percent Answering Correctly

Item No.	Correct Answer	Percent Correct by Grade 5	4	3	2	1	Total Percent Correct
1	B	99	97	96	94	82	94
2	D	98	95	88	82	62	85
3	E	90	81	72	63	39	68
4	D	99	97	90	76	48	82
5	A	99	94	85	70	39	77
6	C	98	93	85	66	41	76
7	E	94	82	67	48	27	63
8	C	100	99	97	89	59	89
9	E	94	89	80	72	47	76
10	A	94	80	59	42	28	59
11	B	91	78	70	61	46	68
12	D	99	95	86	74	58	82
13	E	87	66	52	40	24	52
14	B	99	95	88	76	55	82
15	A	96	91	79	61	35	72
16	D	86	75	69	64	52	68
17	A	87	76	63	55	40	64
18	B	82	55	35	24	13	39
19	C	98	93	82	66	36	75
20	E	92	82	71	59	35	67
21	D	89	79	71	66	53	71
22	C	99	96	92	83	51	84
23	B	86	77	67	52	30	62
24	B	93	78	56	36	21	55
25	C	72	48	32	21	15	35
26	E	81	55	38	28	25	42
27	B	99	94	86	75	53	81
28	A	83	59	41	33	25	46
29	D	57	40	30	24	17	32
30	C	97	90	80	60	31	71

Item No.	Correct Answer	Percent Correct by Grade 5	4	3	2	1	Total Percent Correct
31	B	56	40	30	22	15	31
32	D	98	97	94	91	72	91
33	C	87	78	70	62	49	68
34	A	99	97	91	80	48	83
35	E	87	68	46	30	20	48
36	E	78	55	35	23	15	39
37	C	95	92	87	75	46	79
38	B	89	72	59	47	30	58
39	C	92	74	51	33	19	52
40	B	98	90	70	47	28	66
41	D	95	86	76	63	41	72
42	A	89	72	60	52	43	61
43	C	74	50	33	25	22	38
44	E	89	59	34	21	16	40
45	B	97	91	82	74	54	79
46	A	90	73	56	42	25	56
47	C	83	65	50	40	29	52
48	B	96	85	68	48	23	63
49	B	95	85	73	57	32	67
50	D	88	66	48	36	23	50
51	C	86	54	30	17	16	37
52	E	94	83	68	52	24	63
53	C	94	88	84	79	67	81
54	A	78	46	25	16	11	32
55	E	96	89	80	70	45	75
56	A	75	57	43	30	19	43
57	E	69	48	33	24	15	35
58	A	85	62	43	28	16	44
59	D	97	91	82	66	39	72
60	A	81	60	46	35	23	40

AP Microeconomics
2000 Scoring Guidelines

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Scoring Guideline for Microeconomics Question 1:

[2+2+1+2+1+1+2=11]

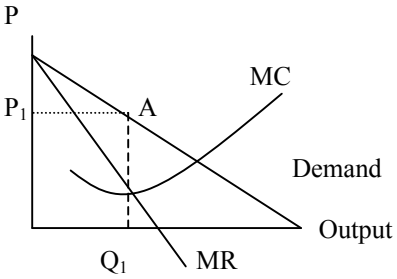
Part (a)

(i) MR = MC for output (1 point)
(ii) P from Demand curve (1 point)

Part (b)

(i) Q1 and P5 (or Point B) (1 point)
ii) A to D (or range for which MR > 0) (1 point)

- It is not necessary for them to acknowledge that D technically shouldn't be included in this line segment.
- While other line segments (AB, AC, BC, BD, CD) are elastic, they include only a portion of the line segment that is elastic and should not be given credit.
- **Often, the answer to A) will be found in B), and can be acceptable as a correct answer to A).**
    - **Also, the student may attempt to answer this (and other) part of the question with a simplified graph of his/her/its own, such as the one below. If it is correctly labeled and is correct, this is acceptable.**



Profit maximizing output here is Q1
Profit maximizing price is P1
A is the profit-maximizing point

Part (c)

Q2 and P4, (or point C) (1 point).

Part (d)

(i) ABP_5 (monopoly) (1 point)

- If the answer to d) I) is incorrect but consistent with the student's answer in b), credit should be given.

(ii) ACP_4 (perfect competition) (1 point)

- Again, there is a consistency problem; if the answer to ii) is incorrect but is consistent with the (incorrect) answer the student gave in c), credit should be given.

Part (e)

P = MC ,or
MB = MC (1 point)

- This definition is entirely self-contained; there need be no reference to the graph to get full credit.

Part (f)

Q2 (1point)

- If this answer is incorrect the student receives no credit *even if it is consistent with part e)*

Part (g)

A per-unit subsidy. Merely the word "subsidy" is sufficient. (1 point).

ii) An explanation that the subsidy either (1 point)

1) lowers MC, or
2) raises MR, or
3) shifts the demand curve out.

- **A statement that output increases is not sufficient.**

Scoring Guideline for Microeconomics Question 2:

Question 2 [1+1+2+1+1 = 6 Points]

Part (a)

(1 point) Perfect competition (or pure competition) since price of output is given to the firm

- "Because the firm is a price-taker" is also acceptable.

Part (b)

(1 point) Perfect competition since the wage rate is given to the firm (1 point)

- "Because the firm is a wage-taker" is also acceptable.

Part (c)

(2 points) 1 point for 5 workers; 1 point for the explanation

The MRP > w for 5 workers but not for 6.

- It is **not** sufficient to point out that the firm earns a profit (or its greatest profit) at 5 workers; some reference must be made to the fact that MRC (MFC, MC *of labor,* or wages) is closest to MRP and is still greater than MRP at that level of output.

- The student must use MRP in the answer; MR is not sufficient.

Part (d)

(1 point) for 46 units of output. The output level must be consistent with the units of labor selected in part c. In this case, a student who has the wrong number of labor in part c. may still earn the point here if the output level is consistent with that quantity of labor indicated by the student in part c.

Part (e)

TR:	$138	(46 x $3)	(1 point)
- TVC	55	(5 x $11)	
- TFC	10		
= **Economic Profit**	**$ 73**		

- Must be consistent with the student's answer above.
- They do not have to show the actual profit; if they state that a profit is being earned because TR > TC they receive credit.

Scoring Guidelines for Microeconomics Question 3

[2+1+2 = 5 Points]

Part (a) Market for Imported Shoes

(i) Correct graph (Labels: D,S,P, & Q) that includes an inward shift in supply (1 point)

(ii) P and Q changes correctly explained using the student's graph of a) i). (1 point)

Part (b) Market for Domestic Shoes

Correct graph that includes a demand shift consistent with the price change in Part a with
both P and Q consistent with the graph drawn (1 point)

Part (c)

(i) With an elastic demand for imported shoes, the increased price of imported shoes will lead to a reduction in total expenditures (1 point).

- A student who has an incorrect answer in part a) may earn this point as long as the analysis is consistent with the answer in part a).

(ii) Discussion of the proportional change in P and Q to explain the expenditure change. (1 point)

- **Be careful to work with the student's output change in Part a.**

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