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AP® Microeconomics Practice Exam

From the 2014 Administration

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Student Answer Sheet for the Multiple-Choice Section

Use this section to capture student responses. (Note that the following answer sheet is a sample, and may differ from one used in an actual exam.)

AP Answer Sheet 2014

AP Number Label
(from Student Pack)

B123456789T

AP Exam Label
(from Section I Booklet)

CollegeBoard

COMPLETE THIS AREA AT EVERY EXAM. USE NO. 2 PENCIL ONLY

To maintain the security of the exam and the validity of my AP score, I will allow no one else to see the multiple-choice questions. I will seal the multiple-choice booklet when asked to do so, and I will not discuss these questions with anyone at any time after completing the section. I am aware of and agree to the AP Program's policies and procedures as outlined in the *2013-14 Bulletin for AP Students and Parents*, including using testing accommodations (e.g., extended time, computer, etc.) only if I have been preapproved by College Board Services for Students with Disabilities.

A. SIGNATURE Sign your legal name as it will appear on your college applications. Date

B. LEGAL NAME Omit apostrophes, Jr., II.

Legal Last Name — First 15 Letters | Legal First Name — First 12 Letters | MI

C. YOUR AP NUMBER

D. EXAM DATE Month Day

E. EXAM START TIME AM PM

F. MULTIPLE-CHOICE BOOKLET SERIAL NUMBER S

G. ONLINE PROVIDER CODE

COMPLETE THIS AREA ONLY ONCE.

I. AREA CODE AND PHONE NUMBER

INTERNATIONAL PHONE

J. SCHOOL YOU ATTEND

SCHOOL CODE

School Name

City

State

Country

K. DATE OF BIRTH

Month: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

Day

Year

L. SOCIAL SECURITY NUMBER (Optional)

M. COLLEGE TO RECEIVE YOUR AP SCORE REPORT

COLLEGE CODE

Using the college code listed in the AP Student Pack, indicate the **ONE** college that you want to receive your AP score report.

College Name

City

State

Country

N. CURRENT GRADE LEVEL

- Not yet in 9th grade
- 9th
- 10th
- 11th
- 12th
- No longer in high school

H. AP EXAM I AM TAKING USING THIS ANSWER SHEET Exam Name: Form: Form Code:

773898

SCHOOL USE ONLY

Section Number: 1 2 3 4 5 6 7 8 9

Fee Reduction Granted: 1 Option 1 2 Option 2

99735-00657• UNLWEB114

Q3779/1-4

COMPLETE THIS AREA AT EACH EXAM (IF APPLICABLE)

O. SURVEY QUESTIONS — Answer the survey questions in the AP Student Pack. Do not put responses to exam questions in this section.

1 (A) (B) (C) (D) (E) (F) (G) (H) (I)	4 (A) (B) (C) (D) (E) (F) (G) (H) (I)	7 (A) (B) (C) (D) (E) (F) (G) (H) (I)
2 (A) (B) (C) (D) (E) (F) (G) (H) (I)	5 (A) (B) (C) (D) (E) (F) (G) (H) (I)	8 (A) (B) (C) (D) (E) (F) (G) (H) (I)
3 (A) (B) (C) (D) (E) (F) (G) (H) (I)	6 (A) (B) (C) (D) (E) (F) (G) (H) (I)	9 (A) (B) (C) (D) (E) (F) (G) (H) (I)

P. LANGUAGE — Do not complete this section unless instructed to do so.

If this answer sheet is for the French Language and Culture, German Language and Culture, Italian Language and Culture, Spanish Language and Culture, or Spanish Literature and Culture Exam, please answer the following questions. Your responses will not affect your score.

1. Have you lived or studied for one month or more in a country where the language of the exam you are now taking is spoken?

◯ Yes ◯ No

2. Do you regularly speak or hear the language at home?

◯ Yes ◯ No

QUESTIONS 1–75

Indicate your answers to the exam questions in this section (pages 2 and 3). Mark only one response per question. If a question has only four answer options, do not mark option E. Answers written in the multiple-choice booklet will not be scored.

COMPLETE MARK ●

EXAMPLES OF INCOMPLETE MARKS

You must use a No. 2 pencil and marks must be complete. Do not use a mechanical pencil. It is very important that you fill in the entire circle darkly and completely. If you change your response, erase as completely as possible. Incomplete marks or erasures may affect your score.

1 (A) (B) (C) (D) (E)	26 (A) (B) (C) (D) (E)	51 (A) (B) (C) (D) (E)
2 (A) (B) (C) (D) (E)	27 (A) (B) (C) (D) (E)	52 (A) (B) (C) (D) (E)
3 (A) (B) (C) (D) (E)	28 (A) (B) (C) (D) (E)	53 (A) (B) (C) (D) (E)
4 (A) (B) (C) (D) (E)	29 (A) (B) (C) (D) (E)	54 (A) (B) (C) (D) (E)
5 (A) (B) (C) (D) (E)	30 (A) (B) (C) (D) (E)	55 (A) (B) (C) (D) (E)
6 (A) (B) (C) (D) (E)	31 (A) (B) (C) (D) (E)	56 (A) (B) (C) (D) (E)
7 (A) (B) (C) (D) (E)	32 (A) (B) (C) (D) (E)	57 (A) (B) (C) (D) (E)
8 (A) (B) (C) (D) (E)	33 (A) (B) (C) (D) (E)	58 (A) (B) (C) (D) (E)
9 (A) (B) (C) (D) (E)	34 (A) (B) (C) (D) (E)	59 (A) (B) (C) (D) (E)
10 (A) (B) (C) (D) (E)	35 (A) (B) (C) (D) (E)	60 (A) (B) (C) (D) (E)
11 (A) (B) (C) (D) (E)	36 (A) (B) (C) (D) (E)	61 (A) (B) (C) (D) (E)
12 (A) (B) (C) (D) (E)	37 (A) (B) (C) (D) (E)	62 (A) (B) (C) (D) (E)
13 (A) (B) (C) (D) (E)	38 (A) (B) (C) (D) (E)	63 (A) (B) (C) (D) (E)
14 (A) (B) (C) (D) (E)	39 (A) (B) (C) (D) (E)	64 (A) (B) (C) (D) (E)
15 (A) (B) (C) (D) (E)	40 (A) (B) (C) (D) (E)	65 (A) (B) (C) (D) (E)
16 (A) (B) (C) (D) (E)	41 (A) (B) (C) (D) (E)	66 (A) (B) (C) (D) (E)
17 (A) (B) (C) (D) (E)	42 (A) (B) (C) (D) (E)	67 (A) (B) (C) (D) (E)
18 (A) (B) (C) (D) (E)	43 (A) (B) (C) (D) (E)	68 (A) (B) (C) (D) (E)
19 (A) (B) (C) (D) (E)	44 (A) (B) (C) (D) (E)	69 (A) (B) (C) (D) (E)
20 (A) (B) (C) (D) (E)	45 (A) (B) (C) (D) (E)	70 (A) (B) (C) (D) (E)
21 (A) (B) (C) (D) (E)	46 (A) (B) (C) (D) (E)	71 (A) (B) (C) (D) (E)
22 (A) (B) (C) (D) (E)	47 (A) (B) (C) (D) (E)	72 (A) (B) (C) (D) (E)
23 (A) (B) (C) (D) (E)	48 (A) (B) (C) (D) (E)	73 (A) (B) (C) (D) (E)
24 (A) (B) (C) (D) (E)	49 (A) (B) (C) (D) (E)	74 (A) (B) (C) (D) (E)
25 (A) (B) (C) (D) (E)	50 (A) (B) (C) (D) (E)	75 (A) (B) (C) (D) (E)

DO NOT WRITE IN THIS AREA

QUESTIONS 76–120

Be sure each mark is dark and completely fills the circle. If a question has only four answer options, do not mark option E.

76	A B C D E	91	A B C D E	106	A B C D E
77	A B C D E	92	A B C D E	107	A B C D E
78	A B C D E	93	A B C D E	108	A B C D E
79	A B C D E	94	A B C D E	109	A B C D E
80	A B C D E	95	A B C D E	110	A B C D E
81	A B C D E	96	A B C D E	111	A B C D E
82	A B C D E	97	A B C D E	112	A B C D E
83	A B C D E	98	A B C D E	113	A B C D E
84	A B C D E	99	A B C D E	114	A B C D E
85	A B C D E	100	A B C D E	115	A B C D E
86	A B C D E	101	A B C D E	116	A B C D E
87	A B C D E	102	A B C D E	117	A B C D E
88	A B C D E	103	A B C D E	118	A B C D E
89	A B C D E	104	A B C D E	119	A B C D E
90	A B C D E	105	A B C D E	120	A B C D E

For Students Taking AP Biology

Write your answer in the boxes at the top of the griddable area and fill in the corresponding circles. Mark only one circle in any column. You will receive credit only if the circles are filled in correctly.

121 122 123 124 125 126

ETS USE ONLY

SELECTED MEDIA EXAMS	R	W	O	OTHER EXAMS	R	W	O
PT02				TOTAL			
PT03				Subscore (if applicable)			
PT04				Subscore (if applicable)			

Exam		0 1 2 3 4 5 6 7 8 9
		0 1 2 3 4 5 6 7 8 9
Exam		0 1 2 3 4 5 6 7 8 9
		0 1 2 3 4 5 6 7 8 9

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COMPLETE THIS AREA ONLY ONCE.

Q. YOUR MAILING ADDRESS

Use the address abbreviations from your AP Student Pack. Fill in only one circle per column. Indicate a space in your address by leaving a blank box; do not grid that column.

STREET ADDRESS (include street number, street name, apartment number, etc.)

CITY

ZIP OR POSTAL CODE

COUNTRY CODE

STATE

AK AL AR AZ CA CO CT DC DE FL GA HI IA ID IL IN KS KY LA MA MD ME MI MN MO MS MT NC ND NE NH NJ NM NV NY OH OK OR PA RI SC SD TN TX UT VA VT WA WI WV WY Puerto Rico AA AE AP Other

R. FOR STUDENTS OUTSIDE THE UNITED STATES ONLY

If your address does not fit in the spaces provided in Item Q, fill in as many circles as you can, then fill in the circle in Item R and print the remainder of your address in the spaces provided.

Address | City | State or Province | Country | ZIP or Postal Code

T. EMAIL ADDRESS

By providing your email address, you are granting the College Board permission to use your email in accordance with the policies in the *2013-14 Bulletin for AP Students and Parents*.

U. STUDENT SEARCH SERVICE®

Colleges and scholarship programs may request your information to inform you of educational opportunities and financial aid.

Would you like us to supply your information?

◯ Yes ◯ No

If you don't answer and previously chose to participate in this service, we will continue providing your information.

V. SEX

◯ Female ◯ Male

W. WHICH LANGUAGE DO YOU KNOW BEST?

◯ English

◯ English and another language about the same

◯ Another language

X. ETHNICITY/RACE

◯ American Indian or Alaska Native

◯ Asian, Asian American or Pacific Islander

◯ Black or African American

◯ Mexican or Mexican American

◯ Puerto Rican

◯ Other Hispanic, Latino or Latin American

◯ White

◯ Other

Y. PARENTAL EDUCATION LEVEL

Father/ Male Guardian	Mother/ Female Guardian	
◯	◯	Grade school
◯	◯	Some high school
◯	◯	High school diploma or equivalent
◯	◯	Business or trade school
◯	◯	Some college
◯	◯	Associate or two-year degree
◯	◯	Bachelor's or four-year degree
◯	◯	Some graduate or professional school
◯	◯	Graduate or professional degree

S. STUDENT IDENTIFIER (Student ID Number)

Section I: Multiple-Choice Questions

This is the multiple-choice section of the 2014 AP exam.
It includes cover material and other administrative instructions
to help familiarize students with the mechanics of the exam.
(Note that future exams may differ in look from the following content.)

PLACE SEAL HERE

AP® Microeconomics Exam

SECTION I: Multiple Choice

2014

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

At a Glance

Total Time
1 hour, 10 minutes
Number of Questions
60
Percent of Total Score
66.67%
Writing Instrument
Pencil required

Instructions

Section I of this exam contains 60 multiple-choice questions. Fill in only the circles for numbers 1 through 60 on your answer sheet.

Indicate all of your answers to the multiple-choice questions on the answer sheet. No credit will be given for anything written in this exam booklet, but you may use the booklet for notes or scratch work. After you have decided which of the suggested answers is best, completely fill in the corresponding circle on the answer sheet. Give only one answer to each question. If you change an answer, be sure that the previous mark is erased completely. Here is a sample question and answer.

Sample Question	Sample Answer
Chicago is a (A) state (B) city (C) country (D) continent (E) village	Ⓐ ● Ⓒ Ⓓ Ⓔ

Use your time effectively, working as quickly as you can without losing accuracy. Do not spend too much time on any one question. Go on to other questions and come back to the ones you have not answered if you have time. It is not expected that everyone will know the answers to all of the multiple-choice questions.

Your total score on the multiple-choice section is based only on the number of questions answered correctly. Points are not deducted for incorrect answers or unanswered questions.

PLACE SEAL HERE

Form I
Form Code 4JBP6-S
34

PLACE SEAL HERE
DO NOT seal answer sheet inside

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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 circle on the answer sheet.

1. Improvements in technology for producing all goods must result in

   (A) an inward shift in the production possibilities curve
   (B) an outward shift in the production possibilities curve
   (C) a flatter production possibilities curve
   (D) a steeper production possibilities curve
   (E) greater unemployment of labor

2. The quantity of peanuts supplied increased from 40 tons per week to 60 tons per week when the price of peanuts increased from $4 per ton to $5 per ton. The price elasticity of supply for peanuts over this price range is

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

3. Which of the following best describes the law of demand?

   (A) The price of a good increases when the demand for the good increases.
   (B) The price of a good decreases when the supply of the good decreases.
   (C) When the price of a good increases, its demand decreases.
   (D) When the price of a good decreases, its quantity demanded increases.
   (E) Demand creates its own supply.

4. Assume that ice cream is a normal good. If the price of ice cream decreases, the substitution effect and the income effect will lead to which of the following changes in ice cream consumption?

	Substitution Effect	Income Effect
(A)	Increase	Decrease
(B)	Increase	Increase
(C)	Increase	No change
(D)	Decrease	Increase
(E)	Decrease	No change

5. Short-run marginal costs eventually increase because of the effects of

   (A) increasing marginal product
   (B) diminishing marginal product
   (C) diseconomies of scale
   (D) economies of scale
   (E) increasing fixed costs

6. If a government eliminated an effective price floor in a market, all of the following would occur EXCEPT:

   (A) The surplus would be eliminated.
   (B) The price would decrease.
   (C) The quantity supplied would decrease.
   (D) The quantity demanded would increase.
   (E) The supply of the good would increase.

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7. Which of the following must be true if a firm is experiencing economies of scale?

(A) All costs are explicit.
(B) Long-run average total cost decreases as the firm's output increases.
(C) Economic profits decrease as the firm's output increases.
(D) Long-run average total cost remains constant as the firm's output decreases.
(E) Proportionate increases in inputs result in less-than-proportionate increases in output.

8. Compared to a perfectly competitive industry with the same demand and cost curves, a monopoly's price and output will be which of the following?

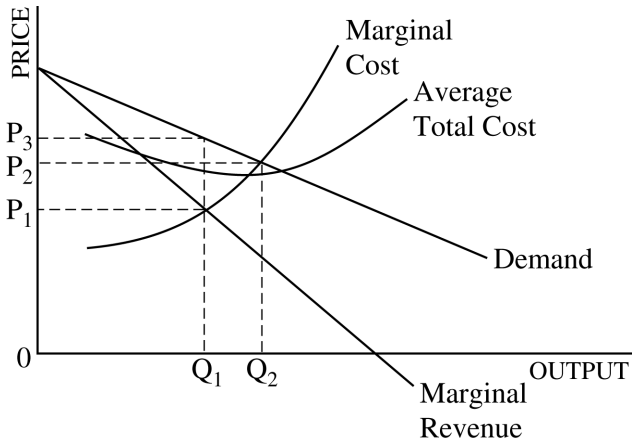
	Price	Output
(A)	The same	Higher
(B)	Higher	The same
(C)	Higher	Lower
(D)	Lower	The same
(E)	Lower	Higher

9. If the demand for a good is perfectly price inelastic in the short run and the supply curve is upward sloping, imposing a sales tax on the good will

(A) leave the price paid by consumers unchanged
(B) decrease the after-tax revenues received by suppliers
(C) increase the after-tax revenues received by suppliers
(D) not change the after-tax revenues received by suppliers
(E) not change the total expenditures by consumers on the good

10. The characteristic of oligopolistic firms that makes them different from all other types of firms is that oligopolistic firms

(A) are regulated by a state agency or federal agency
(B) consider each other's decisions
(C) advertise their products
(D) produce differentiated products
(E) produce identical products



11. For the firm shown in the graph above, the short-run, profit-maximizing strategy would be to set output at

(A) Q_1, price at P_1, and suffer a loss
(B) Q_1, price at P_3, and earn an economic profit
(C) Q_1, price at P_3, and earn only a normal profit
(D) Q_2, price at P_2, and earn an economic profit
(E) Q_2, price at P_2, and earn only a normal profit

12. Which of the following will tend to make the demand for a product more elastic?

(A) New firms which produce similar products enter the industry.
(B) A change in taste and preferences makes the product more desirable.
(C) The product is necessary for use with a complement.
(D) Production of the product is protected by a patent.
(E) Production cost of the product decreases.

13. In a perfectly competitive labor market, an increase in an effective minimum wage will result in

(A) an increase in the supply of workers
(B) a decrease in the supply of workers
(C) a decrease in the demand for workers
(D) more workers being hired
(E) fewer workers being hired

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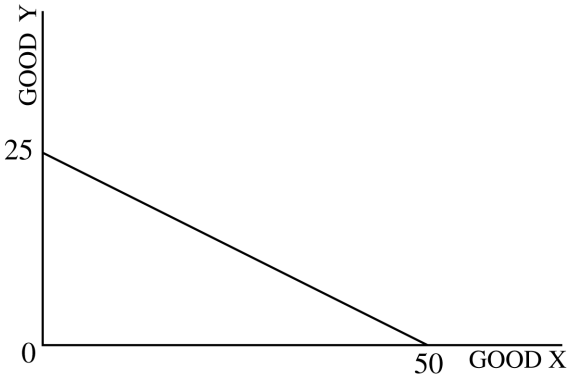
14. Which of the following taxes contributes most to decreasing inequality in the distribution of income?

(A) Progressive income taxes
(B) Sales taxes
(C) Proportional income taxes
(D) Excise taxes
(E) Import tariffs on necessities

15. A free-rider problem arises when a good is

(A) nonrival
(B) nondepletable
(C) nonexcludable
(D) produced in a competitive market
(E) produced in a monopolistic market



16. According to the production possibilities curve above, which of the following is true?

(A) The opportunity cost of producing another unit of good Y in terms of good X increases as more of good Y is produced.
(B) The opportunity cost of producing another unit of good Y in terms of good X decreases as more of good Y is produced.
(C) The opportunity cost of producing another unit of good X in terms of good Y increases as more of good X is produced.
(D) The opportunity cost of producing another unit of good X in terms of good Y decreases as more of good X is produced.
(E) The opportunity cost of producing another unit of either good remains constant as the production of the other good increases.

17. Which of the following is true in a capitalist economy?

(A) The factors of production are collectively owned.
(B) The factors of production are distributed according to needs.
(C) The prices of goods and services are usually determined by the government.
(D) The prices of goods and services are set so that an equitable distribution of private property is achieved.
(E) Prices serve as incentives for factors of production to move to the markets where they are most valued.

18. A city transit authority increases the price of subway and bus tickets from $1.25 to $1.50. If the demand for these tickets is price inelastic, the number of people riding buses and subways and the city's revenues will most likely change in which of the following ways?

	Number of People Riding	City's Revenues
(A)	Increase	Increase
(B)	Decrease	Increase
(C)	Decrease	Decrease
(D)	Decrease	Remain constant
(E)	Remain constant	Increase

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19. The difference between what consumers are willing to pay for units of a good and the price consumers actually pay for units of the good is called

(A) marginal utility
(B) producer surplus
(C) consumer surplus
(D) economic rent
(E) a positive externality

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GO ON TO THE NEXT PAGE.

20. Which of the following is true if consuming one unit of a good yields 100 utils and consuming the second unit of the good increases satisfaction by 20 utils?

(A) The marginal utility of the first unit is 20.
(B) The marginal utility of the second unit is 80.
(C) The marginal utility of the second unit is 120.
(D) The total utility of consuming two units is 120.
(E) The total utility of consuming one unit is greater than the total utility of consuming two units.

21. If a new tax on capital increases a firm's fixed cost of production, which of the following will occur in the short run?

(A) Marginal cost will increase.
(B) Average variable cost will increase.
(C) Average total cost will increase.
(D) The profit-maximizing level of output will increase.
(E) The profit-maximizing level of output will decrease.

- The marginal product of labor equals 250 units of output.
- The marginal product of capital equals 750 units of output.
- The price of labor is $50 per person.
- The price of capital is $100 per unit.

22. Given the information above, which of the following is true for a firm buying its labor and capital inputs in a perfectly competitive market?

(A) The firm is producing its current level of output with the least-cost combination of labor and capital.
(B) The firm is maximizing profits with its current combination of inputs.
(C) The firm's level of output will remain the same if 1 unit of capital is substituted for 2 units of labor.
(D) The firm's input costs will decrease if 2 units of labor are substituted for 1 unit of capital.
(E) The firm can reduce the cost of its current level of output by laying off workers and employing more capital.

23. At 100 units of output, a firm's total cost is $10,000. If the firm's total fixed cost is $4,000, its average variable cost is equal to

(A) $140
(B) $100
(C) $60
(D) $40
(E) $0

24. Which of the following statements correctly identifies a difference between perfect competition and monopolistic competition?

(A) In perfect competition there are no barriers to entry, but there are strong barriers in monopolistic competition.
(B) In perfect competition there are many firms, but in monopolistic competition there are only a few firms.
(C) In perfect competition the firms all sell products that are exactly the same, but in monopolistic competition each firm sells a slightly differentiated product.
(D) In perfect competition firms maximize profit by selling the quantity where marginal revenue equals marginal cost, but in monopolistic competition firms maximize profit by selling the quantity where marginal revenue exceeds marginal cost.
(E) In perfect competition there are few consumers, but in monopolistic competition there are many consumers.

25. The most profitable level of output for any firm operating in the short run is the level of output at which

(A) marginal revenue exceeds marginal cost by the highest amount
(B) marginal revenue equals marginal cost
(C) price exceeds average cost by the highest amount
(D) price equals average cost
(E) price equals marginal cost

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26. For an unregulated monopolist, the profit-maximizing quantity will always be

(A) in the elastic region of the demand curve
(B) where marginal revenue equals price
(C) where price equals average total cost
(D) where price equals marginal cost
(E) where the marginal cost curve intersects the demand curve

27. If a per-unit tax is imposed on a monopolist, how will the monopolist's marginal cost curve, output, and the price paid by consumers be affected?

	Marginal Cost	Output	Price
(A)	Shift down	Increase	Decrease
(B)	Shift down	Decrease	Decrease
(C)	No shift	Decrease	Decrease
(D)	Shift up	Decrease	Increase
(E)	Shift up	Increase	Increase

28. The demand curve for labor for a monopolist that faces a perfectly competitive factor market is called the

(A) average product curve
(B) marginal product curve
(C) marginal revenue curve
(D) marginal revenue product curve
(E) value of the average product curve

Number of Workers	Parts per Week
0	0
1	100
2	190
3	270
4	340
5	400
6	450
7	480

29. The table above describes the production function of an auto parts manufacturer. Assume that the firm can hire as many workers as it wants at the market wage rate of $600 per week per worker and sell as many auto parts as it wants at the price of $10 per part. To maximize profits, the firm should hire

(A) 0 workers
(B) 1 worker
(C) 3 workers
(D) 5 workers
(E) 7 workers

30. Monopolistically competitive firms are considered inefficient in allocating society's resources for which of the following reasons?

(A) In equilibrium, the marginal benefit exceeds the price charged by the firms.
(B) In equilibrium, the marginal benefit exceeds the marginal cost of production.
(C) In equilibrium, the marginal revenue of the firm is not equal to its marginal cost.
(D) In long-run equilibrium, the firm is earning economic profits.
(E) Firms exhibit significant market power and therefore the number of firms in the industry is strictly limited.

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GO ON TO THE NEXT PAGE.

31. As a factor of production, capital refers to the

(A) money available to start a business
(B) stocks and bonds issued by businesses to raise funds
(C) financial investment of businesses
(D) currency in circulation and deposits in financial institutions
(E) tools and machinery used to produce goods and services

32. Which of the following will cause the supply curve for shoes to shift to the right?

(A) An increase in the price of socks, assuming that shoes and socks are complements
(B) A decrease in the price of sandals, assuming that shoes and sandals are substitutes
(C) An increase in the wages of shoe workers
(D) An increase in the number of firms producing shoes
(E) A decrease in the income of consumers, assuming that shoes are normal goods

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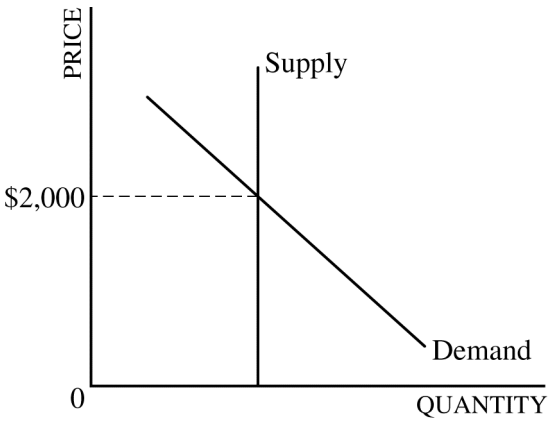
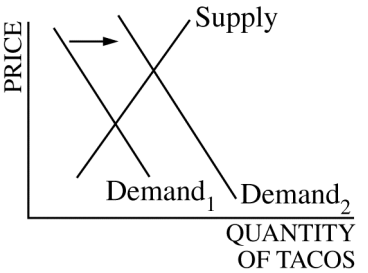


33. The diagram above depicts demand and supply curves in a city's rental housing market. If a price ceiling of $1,000 is imposed on the market, which of the following will occur?

(A) There will be a surplus of rental housing in the city.
(B) The demand curve for housing will shift to the right.
(C) The supply curve for housing will shift to the right.
(D) The quantity of rental housing supplied will decrease.
(E) The quantity of rental housing demanded will increase.

34. For consumers, assume that fish sticks and tacos are substitutes. Which of the following graphs illustrates the effect on the taco market if the price of fish sticks increases?

(A)


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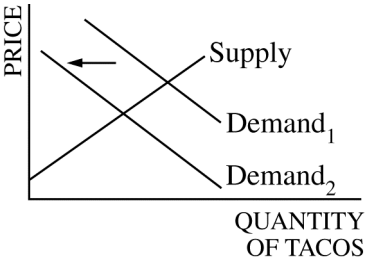

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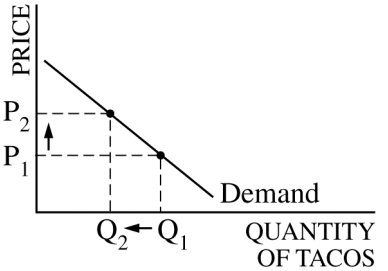

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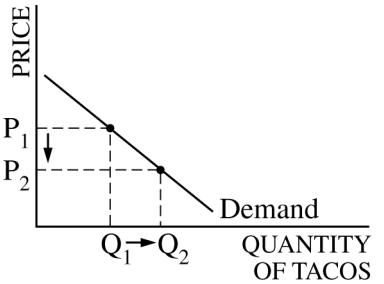
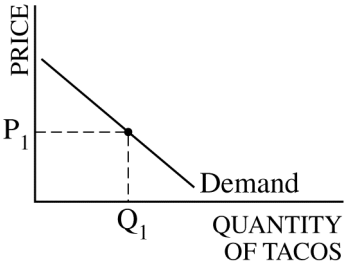


(E)


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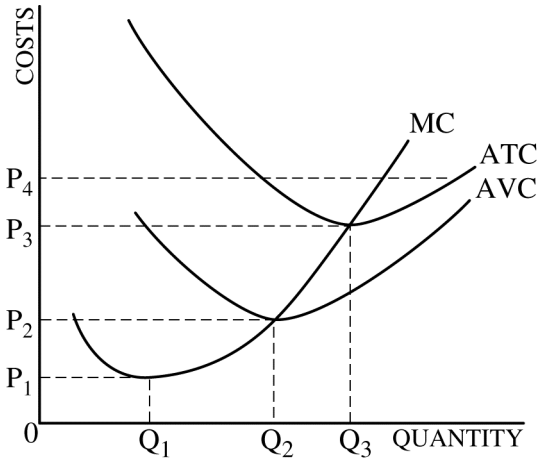
Questions 35-36 refer to the graph below for a representative firm in a perfectly competitive, constant-cost industry, which shows the firm's marginal cost (MC), average total cost (ATC), and average variable cost (AVC).



35. In the short run, the firm will realize an economic loss but will continue to produce if the price is

(A) below P_1
(B) between P_1 and P_2
(C) below P_2
(D) between P_2 and P_3
(E) between P_3 and P_4

36. Which of the following MUST be true in the long run?

(A) The equilibrium price will be P_2, since that is where marginal cost equals minimum average variable cost.
(B) The equilibrium price will be above P_3, since firms must make an economic profit to stay in business.
(C) If the price is above P_2, new firms will enter the industry.
(D) If the price is above P_3, new firms will enter the industry.
(E) If the price is above P_4, firms will exit the industry.

37. Which of the following MUST be true of the long run?

(A) It is at least one year in duration.
(B) All factors of production are variable.
(C) At least one factor of production is fixed.
(D) Marginal costs are constant.
(E) Average total costs are constant.

38. In order for a firm to engage in price discrimination, it must be

(A) able to separate consumers into different groups based on demand elasticities
(B) producing in the inelastic portion of its demand curve to raise its price and increase total revenue
(C) a price taker
(D) experiencing economies of scale in the relevant range of production
(E) experiencing constant marginal cost

39. Which of the following market structures results in allocative efficiency?

(A) Monopoly
(B) Monopolistic competition
(C) Perfect competition
(D) Natural monopoly
(E) Oligopoly

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40. The following table shows the profits associated with the pricing strategies of two oligopolistic firms, Agronomia and Farmingdale. Each firm has two possible strategies: to charge a low price or a high price. The first entry in each cell shows the profits to Agronomia and the second the profits to Farmingdale.

	Farmingdale charges high price.	Farmingdale charges low price.
Agronomia charges high price.	$150, $150	$50, $300
Agronomia charges low price.	$300, $50	$100, $100

If the two firms do not cooperate, as a result of the firms' pricing decisions the profits of each firm will be which of the following?

	Agronomia's Profit	Farmingdale's Profit
(A)	$50	$100
(B)	$150	$150
(C)	$300	$50
(D)	$100	$100
(E)	$300	$300

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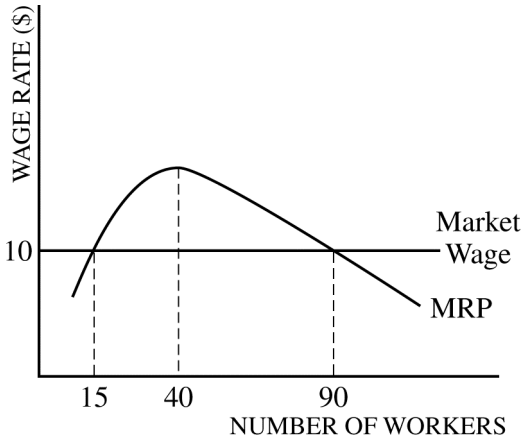
41. Which of the following will occur in a perfectly competitive labor market if Firm X's demand for labor decreases?

	Equilibrium Market Wage Rate	Employment by Firm X
(A)	Increase	Increase
(B)	No change	No change
(C)	No change	Decrease
(D)	Decrease	Decrease
(E)	Decrease	No change



42. The graph above shows the marginal revenue product (MRP) and the market wage rate for a profit-maximizing firm. Which of the following is true of the firm's hiring of labor?

(A) It should hire 15 workers.
(B) It should hire between 15 and 40 workers.
(C) It should hire 40 workers.
(D) It should hire between 40 and 90 workers.
(E) It should hire 90 workers.

43. Which of the following best defines a pure public good?

(A) A good that is provided free of charge to the public
(B) A good that is provided by the government, whether or not a fee is charged
(C) A good that is efficiently produced only by a monopoly
(D) A good whose benefits can be enjoyed by many consumers at the same time and from which consumers cannot be excluded
(E) A good that by law must be available to all consumers without discrimination on the basis of sex, race, or religion

44. A perfectly competitive manufacturing industry pollutes public water in its production process, leaving the water unsuitable for use by the surrounding communities. At the market equilibrium output level, which of the following is true?

(A) Marginal private cost exceeds marginal social cost.
(B) Marginal private cost exceeds marginal private benefit.
(C) Marginal social cost exceeds marginal social benefit.
(D) The market equilibrium output is equal to the socially efficient output.
(E) The market equilibrium output is less than the socially efficient output.

45. Assume that under new environmental regulations, tire companies have to pay taxes based on how much pollution is created when producing each tire. The price paid by consumers and the quantity of tires sold will most likely change in which of the following ways?

	Price	Quantity
(A)	Increase	Decrease
(B)	Increase	Increase
(C)	Decrease	Increase
(D)	Decrease	Decrease
(E)	No change	No change

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GO ON TO THE NEXT PAGE.

46. The market for goldfish is perfectly competitive. From year 1 to year 2, both the price and the quantity of goldfish sold increase. This is most likely caused by

(A) an increase in the supply
(B) a decrease in the supply
(C) an increase in the demand
(D) a decrease in the demand
(E) a decrease in both the demand and the supply

47. Using the same amount of time and resources, Jack can assemble either 10 bikes or 5 computers, whereas Sam can assemble either 5 bikes or 5 computers. Based on the data, which of the following statements is correct?

(A) Sam has an absolute advantage in assembling bikes.
(B) Sam has an absolute advantage in assembling computers.
(C) Sam has a comparative advantage in assembling bikes.
(D) Jack has a comparative advantage in assembling bikes.
(E) Jack has a comparative advantage in assembling both bikes and computers.

48. Given an increase in the price of material K—which is an input used to produce good X—and an increase in the price of good Y—which is a substitute for good X—which of the following will definitely occur?

(A) The equilibrium price of good X will decrease.
(B) The equilibrium price of good X will increase.
(C) The equilibrium quantity of good X will be unaffected.
(D) The equilibrium quantity of good X will increase.
(E) The equilibrium quantity of good X will decrease.

49. An entrepreneur has earned enough total revenue to cover her accounting costs, but economic losses are being incurred. What must be true?

(A) Her accounting costs are larger than her economic costs.
(B) Her accounting profits are less than her implicit costs.
(C) Her accounting profits are greater than her economic costs.
(D) Her economic losses are less than her total fixed costs.
(E) Her implicit costs are less than her accounting costs.

50. If nations specialize according to their comparative advantage and engage in international trade with each other, each nation can

(A) produce outside its production possibilities curve
(B) consume outside its production possibilities curve
(C) shift its production possibilities curve to the right
(D) become more self-sufficient
(E) produce more of all goods

51. When total physical product is at its maximum, marginal physical product must be

(A) greater than one
(B) equal to one
(C) equal to zero
(D) less than zero
(E) constant

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52. Garcia is currently spending his entire lunch budget on 3 sodas and 4 hot dogs. At his current level of consumption, Garcia's marginal utility for sodas is 5 utils and his marginal utility for hot dogs is 10 utils. In order to maximize his total utility, Garcia should

(A) consume more sodas and fewer hot dogs regardless of the prices
(B) consume more hot dogs and fewer sodas regardless of the prices
(C) maintain his current level of consumption of sodas and hot dogs regardless of the prices
(D) maintain his current level of consumption if the price of a soda is $1 and the price of a hot dog is $2
(E) maintain his current level of consumption if the price of a soda is $2 and the price of a hot dog is $1

53. As output of a firm increases, the difference between the firm's average total cost and its average variable cost gets smaller because the firm's

(A) total cost is increasing
(B) marginal cost is increasing
(C) average fixed cost is decreasing
(D) marginal product of labor is decreasing
(E) long-run average total cost is decreasing

54. In a perfectly competitive market, a change in which of the following could cause a shift in the supply curve?

(A) The incomes of consumers
(B) The number of buyers
(C) Technology
(D) The price of the product
(E) Tastes and preferences

55. Productive efficiency occurs when a firm produces output at a level at which

(A) average total cost equals average revenue
(B) average total cost is at a minimum
(C) price exceeds average total cost
(D) price equals marginal cost
(E) marginal revenue exceeds average revenue

56. Which of the following is true of a monopolistically competitive firm in long-run equilibrium?

(A) Price equals marginal cost and average total cost.
(B) Price equals average total cost but is greater than marginal cost.
(C) Price equals marginal cost and is greater than average total cost.
(D) The firm makes no attempt to differentiate its products.
(E) The firm earns positive economic profits by producing at minimum average cost.

57. Assume that firms sell their output in a perfectly competitive product market and hire labor in a perfectly competitive labor market. If all other factors remain constant, an increase in the demand for the firms' product will result in which of the following changes in the labor market?

(A) Firms will move down along the demand curve for labor and hire more workers.
(B) The supply curve for labor will shift to the right.
(C) The demand curve for labor will shift to the right.
(D) The supply curve for labor will shift to the left.
(E) The demand curve for labor will shift to the left.

58. A profit-maximizing firm will continue to hire workers until the

(A) marginal factor cost of labor is equal to the marginal revenue product of labor
(B) marginal factor cost of labor is equal to the price of the good produced using labor
(C) marginal product of labor is equal to the marginal revenue product of labor
(D) marginal product of labor is equal to the marginal factor cost of labor
(E) marginal product of labor is equal to the price of labor

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59. Assume that the marginal social benefit of the last unit of vaccination provided is greater than the marginal social cost. Which of the following can be used to achieve efficiency in the market for vaccination?

(A) A per-unit subsidy for vaccinations
(B) A lump-sum tax for vaccinations
(C) A limit on the quantity of vaccinations
(D) A price floor for vaccinations
(E) A price ceiling for vaccinations

60. Which of the following government actions can correct the inefficiency caused by the existence of a monopoly?

(A) Granting a per-unit subsidy on the monopolist's output
(B) Granting an annual lump-sum subsidy to the monopolist
(C) Imposing a per-unit tax on the monopolist's output
(D) Imposing a price floor on the monopolist
(E) Limiting the monopolist's production through regulation

END OF SECTION I

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION.

DO NOT GO ON TO SECTION II UNTIL YOU ARE TOLD TO DO SO.

MAKE SURE YOU HAVE DONE THE FOLLOWING.

- **PLACED YOUR AP NUMBER LABEL ON YOUR ANSWER SHEET**
- **WRITTEN AND GRIDDED YOUR AP NUMBER CORRECTLY ON YOUR ANSWER SHEET**
- **TAKEN THE AP EXAM LABEL FROM THE FRONT OF THIS BOOKLET AND PLACED IT ON YOUR ANSWER SHEET**

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Section II: Free-Response Questions

This is the free-response section of the 2014 AP exam.
It includes cover material and other administrative instructions
to help familiarize students with the mechanics of the exam.
(Note that future exams may differ in look from the following content.)

AP® Microeconomics Exam

SECTION II: Free Response

2014

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

At a Glance

Total Time
1 hour
Number of Questions
3
Percent of Total Score
33.33%
Writing Instrument
Pen with black or dark blue ink

Reading Period

Time
10 minutes. Use this time to read the questions and plan your answers.

Writing Period

Time
50 minutes

Question 1
Suggested Time
25 minutes
Percent of Section II Score
50%

Question 2
Suggested Time
12.5 minutes
Percent of Section II Score
25%

Question 3
Suggested Time
12.5 minutes
Percent of Section II Score
25%

IMPORTANT Identification Information

PLEASE PRINT WITH PEN:

1. First two letters of your last name ☐☐
   First letter of your first name ☐
2. Date of birth
   ☐☐ Month ☐☐ Day ☐☐☐☐ Year
3. Six-digit school code
   ☐☐☐☐☐☐
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   No, I do not grant the College Board these rights. ☐

Instructions

The questions for Section II are printed in this booklet. You may use page 3 and the pages the questions are printed on to organize your answers and for scratch work, but you must write your answers on the lined pages provided for each question.

The proctor will announce the beginning and end of the reading period. You are advised to spend the 10-minute period reading all the questions and planning your answers. Do NOT begin writing on the lined pages until the proctor tells you to do so.

Write clearly and legibly. Do not skip lines. Cross out any errors you make; crossed-out work will not be scored.

Manage your time carefully. You may proceed freely from one question to the next. You may review your responses if you finish before the end of the exam is announced.

Form I
Form Code 4JBP6-S

MICROECONOMICS

Section II

Planning time—10 minutes

Writing time—50 minutes

Directions: You have 10 minutes to read all of the questions in this booklet, to sketch graphs, to make notes, and to plan your answers. You will then have 50 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. Use a pen with black or dark blue ink.

Question 1 begins on page 4.

Question 2 begins on page 10.

Question 3 begins on page 14.

THIS PAGE MAY BE USED FOR TAKING NOTES AND PLANNING YOUR ANSWERS.

NOTES WRITTEN ON THIS PAGE WILL NOT BE SCORED.

WRITE ALL YOUR RESPONSES ON THE LINED PAGES.

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GO ON TO THE NEXT PAGE.

1. Assume soybeans are produced by a perfectly competitive, constant-cost industry. Fresh Farm is a typical firm producing soybeans and is currently operating with an economic loss.

   (a) Using a correctly labeled graph for Fresh Farm, show each of the following in the short run.

      (i) The marginal cost curve and average total cost, labeled MC and ATC, respectively

      (ii) Fresh Farm's price and loss-minimizing quantity, labeled P_F and Q_F, respectively

      (iii) The average variable cost curve, labeled AVC

   (b) Suppose that newspapers have recently reported that excessive soybean consumption can cause health problems. As a result, will the new loss-minimizing quantity for Fresh Farm be greater than, less than, or equal to Q_F in the short run? Explain.

   (c) Is the long-run market supply for soybeans perfectly inelastic, relatively inelastic, unit elastic, relatively elastic, or perfectly elastic?

   (d) Assume now that the soybean market is in a long-run equilibrium and that fertilizers used in soybean production cause water pollution. Using a correctly labeled graph for the soybean market, show each of the following.

      (i) Market equilibrium quantity and price, labeled Q_M and P_M

      (ii) Marginal social cost curve, labeled MSC

      (iii) Socially optimal quantity, labeled Q_S

      (iv) The area representing deadweight loss, shaded completely

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ANSWER PAGE FOR QUESTION 1

GO ON TO THE NEXT PAGE.

Question 1 is reprinted for your convenience.

1. Assume soybeans are produced by a perfectly competitive, constant-cost industry. Fresh Farm is a typical firm producing soybeans and is currently operating with an economic loss.

   (a) Using a correctly labeled graph for Fresh Farm, show each of the following in the short run.

      (i) The marginal cost curve and average total cost, labeled MC and ATC, respectively

      (ii) Fresh Farm's price and loss-minimizing quantity, labeled P_F and Q_F, respectively

      (iii) The average variable cost curve, labeled AVC

   (b) Suppose that newspapers have recently reported that excessive soybean consumption can cause health problems. As a result, will the new loss-minimizing quantity for Fresh Farm be greater than, less than, or equal to Q_F in the short run? Explain.

   (c) Is the long-run market supply for soybeans perfectly inelastic, relatively inelastic, unit elastic, relatively elastic, or perfectly elastic?

   (d) Assume now that the soybean market is in a long-run equilibrium and that fertilizers used in soybean production cause water pollution. Using a correctly labeled graph for the soybean market, show each of the following.

      (i) Market equilibrium quantity and price, labeled Q_M and P_M

      (ii) Marginal social cost curve, labeled MSC

      (iii) Socially optimal quantity, labeled Q_S

      (iv) The area representing deadweight loss, shaded completely

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ADDITIONAL PAGE FOR ANSWERING QUESTION 1

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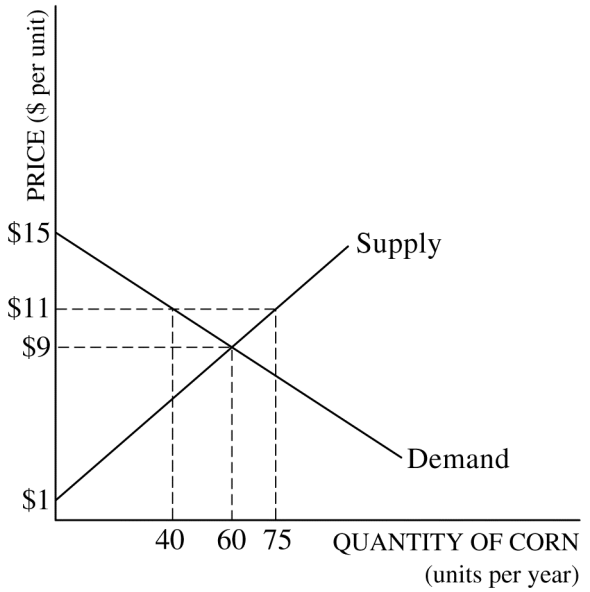
ADDITIONAL PAGE FOR ANSWERING QUESTION 1

GO ON TO THE NEXT PAGE.

ADDITIONAL PAGE FOR ANSWERING QUESTION 1

GO ON TO THE NEXT PAGE.

CORN MARKET



2. The graph above shows the perfectly competitive corn market.

   (a) Between the prices of $9 and $11, is the demand for corn relatively elastic, perfectly elastic, unit elastic, relatively inelastic, or perfectly inelastic? Explain using specific values.

   Suppose the government is considering different programs to help corn farmers in the market represented above.

   (b) Program 1: The government establishes a price floor at $11. How much corn will be purchased by consumers?

   (c) Program 2: The government guarantees a market price of $11 by purchasing all the surplus corn. How much corn will the government need to purchase?

   (d) Program 3: The government pays farmers to switch to wheat production. Redraw the graph of the corn market above including the numbers, and show the shift that illustrates how paying farmers to switch to wheat production can achieve a market price of $11 for corn.

   (e) Program 4: The government successfully markets corn as an export.

      (i) Explain how increasing exports can achieve a market price of $11.

      (ii) Calculate the producer surplus when the government successfully raises the price of corn to $11 by marketing it as an export. Show your work.

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ANSWER PAGE FOR QUESTION 2

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ADDITIONAL PAGE FOR ANSWERING QUESTION 2

GO ON TO THE NEXT PAGE.

ADDITIONAL PAGE FOR ANSWERING QUESTION 2

GO ON TO THE NEXT PAGE.

3. Schmitt's Bakery sells cookies in a perfectly competitive market and hires workers from a perfectly competitive labor market. Labor is the only variable input for Schmitt's Bakery. The table below shows the workers hired per day, quantity of cookies produced per day, and total costs per day for Schmitt's Bakery. The price of a cookie is $0.50.

Number of Workers Hired	Quantity of Cookies	Total Cost
0	0	$10
1	45	$25
2	105	$40
3	145	$55
4	180	$70
5	195	$85
6	200	$100

(a) When the firm hires the third worker, does it experience diminishing marginal returns?

(b) What is the marginal revenue product of the third worker?

(c) Based on the figures in the table above, what is the wage rate?

(d) What is the profit-maximizing number of workers?

(e) If the demand for cookies increases, will Schmitt's Bakery hire more, fewer, or the same number of workers? Explain.

THIS PAGE MAY BE USED FOR TAKING NOTES AND PLANNING YOUR ANSWERS.

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ANSWER PAGE FOR QUESTION 3

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ADDITIONAL PAGE FOR ANSWERING QUESTION 3

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ADDITIONAL PAGE FOR ANSWERING QUESTION 3

GO ON TO THE NEXT PAGE.

STOP

END OF EXAM

THE FOLLOWING INSTRUCTIONS APPLY TO THE COVERS OF THE SECTION II BOOKLET.

- **MAKE SURE YOU HAVE COMPLETED THE IDENTIFICATION INFORMATION AS REQUESTED ON THE FRONT AND BACK COVERS OF THE SECTION II BOOKLET.**
- **CHECK TO SEE THAT YOUR AP NUMBER LABEL APPEARS IN THE BOX(ES) ON THE COVER(S).**
- **MAKE SURE YOU HAVE USED THE SAME SET OF AP NUMBER LABELS ON ALL AP EXAMS YOU HAVE TAKEN THIS YEAR.**

Multiple-Choice Answer Key

The following contains the answers to
the multiple-choice questions in this exam.

Answer Key for AP Microeconomics Practice Exam, Section I

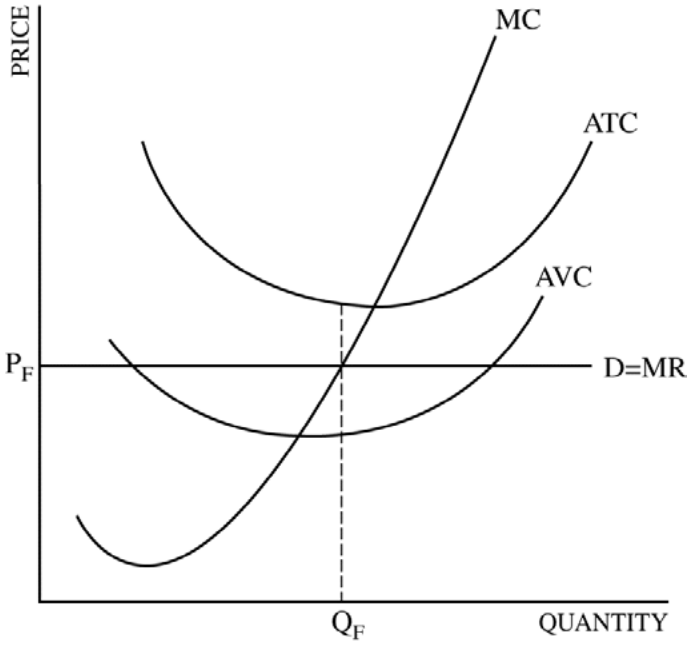
Question 1: B
Question 2: A
Question 3: D
Question 4: B
Question 5: B
Question 6: E
Question 7: B
Question 8: C
Question 9: D
Question 10: B
Question 11: B
Question 12: A
Question 13: E
Question 14: A
Question 15: C
Question 16: E
Question 17: E
Question 18: B
Question 19: C
Question 20: D
Question 21: C
Question 22: E
Question 23: C
Question 24: C
Question 25: B
Question 26: A
Question 27: D
Question 28: D
Question 29: D
Question 30: B
Question 31: E
Question 32: D
Question 33: E
Question 34: A
Question 35: D
Question 36: D
Question 37: B
Question 38: A
Question 39: C
Question 40: D
Question 41: C
Question 42: E
Question 43: D
Question 44: C
Question 45: A
Question 46: C
Question 47: D
Question 48: B
Question 49: B
Question 50: B
Question 51: C
Question 52: D
Question 53: C
Question 54: C
Question 55: B
Question 56: B
Question 57: C
Question 58: A
Question 59: A
Question 60: A

Free-Response Scoring Guidelines

The following contains the scoring guidelines
for the free-response questions in this exam.

Question 1

10 Points (4+1+1+4)



(a) 4 points:

- One point is earned for showing an upward sloping MC curve going through the minimum point of the ATC curve.
- One point is earned for a correctly labeled graph of the typical firm, Fresh Farm, with a horizontal demand curve below ATC, showing P_F.
- One point is earned for showing the profit-maximizing quantity, Q_F at MC=MR or MC=P if P is horizontal.
- One point is earned for showing the AVC curve below the price line at Q_F.

(b) 1 point:

- One point is earned for stating that the new quantity will be less than Q_F, since demand decreases or price decreases.

(c) 1 point:

- One point is earned for stating that the long-run market supply for soybeans is perfectly elastic.

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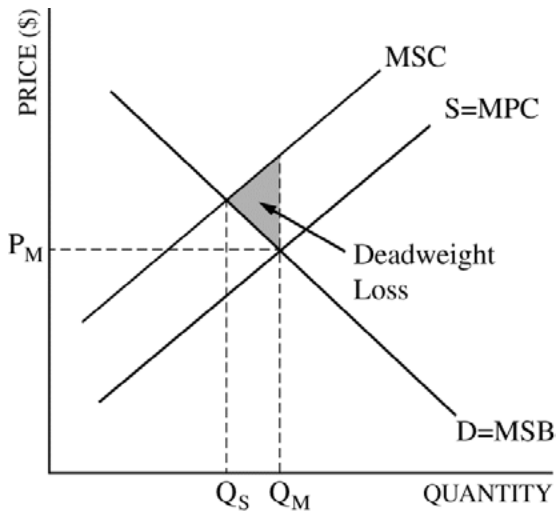
Question 1 (continued)



(d) 4 points:

- One point is earned for drawing a correctly labeled graph for the soybean market showing a downward sloping demand curve (or MSB), supply curve (or MPC), equilibrium quantity, Q_M, and price, P_M.
- One point is earned for drawing the marginal social cost curve above the supply curve.
- One point is earned for showing the socially optimal quantity, Q_S, at MSB=MSC or D=MSC.
- One point is earned for showing the area representing the deadweight loss, shaded completely.

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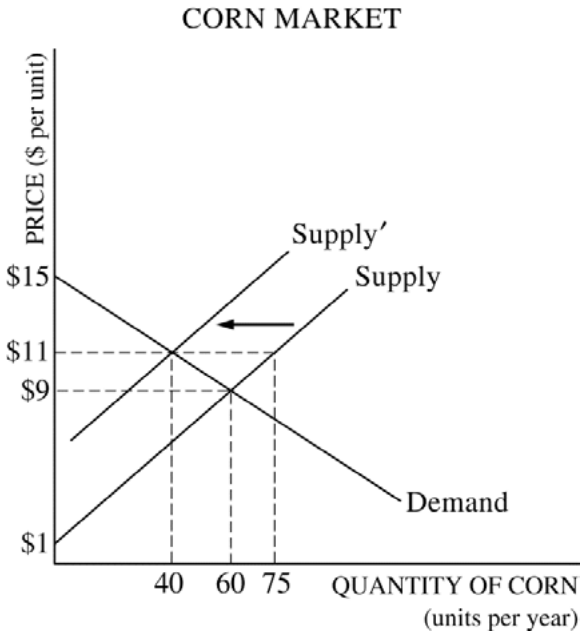
Question 2

6 Points (1+1+1+1+2)

(a) 1point:
- One point is earned for stating that demand is elastic because:
  (can use any one of the following as an explanation)
  - Calculated percentage change in quantity is greater than the calculated percentage change in price.
  - Calculated elasticity is greater than 1.
  - The total revenue increases from $440 to $540 when price decreases from $11 to $9.

(b) 1 point:
- One point is earned for stating that 40 units are purchased by consumers.

(c) 1 point:
- One point is earned for stating that the government purchases 75 – 40 = 35 units.



(d) 1 point:
- One point is earned for redrawing the graph so that the supply curve shifts to the left resulting in P_E = $11 and Q_E = 40.

(e) 2 points:
- One point is earned for stating that the increase in export will increase the demand for corn or shifts the demand curve to the right.
- One point is earned for calculating the producer surplus.
  PS = ½ × ($11–$1) × 75 = ½ × $10 × 75 = $375.

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Question 3

5 Points (1+1+1+1+1)

(a) 1 point:
- One point is earned for stating yes.

(b) 1 point:
- One point is earned for calculating the MRP of the third worker: 40 × $0.50 or $20.

(c) 1 point:
- One point is earned for identifying the wage rate, $15.

(d) 1 point:
- One point is earned for identifying the profit-maximizing number of workers is 4.

(e) 1 point:
- One point is earned for stating that Schmitt's Bakery will hire more workers, because the increase in demand for cookies increases the MRP or VMP or price or marginal revenue.

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Scoring Worksheet

The following provides a scoring worksheet and conversion table used for calculating a composite score of the exam.

2014 AP Microeconomics Scoring Worksheet

Section I: Multiple Choice

_____	× 1.0000 =	_____
Number Correct (out of 60)		Weighted Section I Score (Do not round)

Section II: Free Response

Question 1	_____ (out of 10)	× 1.5000 =	_____ (Do not round)
Question 2	_____ (out of 6)	× 1.2500 =	_____ (Do not round)
Question 3	_____ (out of 5)	× 1.5000 =	_____ (Do not round)

Sum = _____
Weighted Section II Score (Do not round)

Composite Score

_____	+	_____	=	_____
Weighted Section I Score		Weighted Section II Score		Composite Score (Round to nearest whole number)

AP Score Conversion Chart
Microeconomics

Composite Score Range	AP Score
74-90	5
59-73	4
49-58	3
38-48	2
0-37	1

AP Microeconomics

The College Board

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