AP® Microeconomics Practice Exam

From the 2015 Administration

Contents

Note: This publication shows the page numbers that appeared in the *2014–15 AP Exam Instructions* book and in the actual exam. This publication was not repaginated to begin with page 1.

Exam Instructions

The following contains instructions taken from
the *2014–15 AP Exam Instructions* book.

AP® Macroeconomics Exam

Regularly Scheduled Exam Date: Thursday afternoon, May 14, 2015
Late-Testing Exam Date: Wednesday morning, May 20, 2015
Section I Total Time: 1 hr. 10 min.   Section II Total Time: 1 hr.

AP® Microeconomics Exam

Regularly Scheduled Exam Date: Friday morning, May 15, 2015
Late-Testing Exam Date: Wednesday afternoon, May 20, 2015
Section I Total Time: 1 hr. 10 min.   Section II Total Time: 1 hr.

Section I		Section II	
Total Time: 1 hour 10 minutes		**Total Time:** 1 hour	
Calculator not permitted		Calculator not permitted	
Number of Questions: 60*		**Number of Questions:** 3 required free-response questions	
Percent of Total Score: 66.67%		*(10-minute reading period, 50-minute writing period)*	
Writing Instrument: Pencil required		**Percent of Total Score:** 33.33%	
The number of questions may vary slightly depending on the form of the exam.		**Writing Instrument:** Pen with black or dark blue ink	

What Proctors Need to Bring to This Exam

- Exam packets
- Answer sheets
- AP Student Packs
- *2014-15 AP Coordinator's Manual*
- This book — *AP Exam Instructions*
- AP Exam Seating Chart template(s)
- School Code and Home-School/Self-Study Codes
- Pencil sharpener
- Container for students' electronic devices (if needed)

- Extra No. 2 pencils with erasers
- Extra pens with black or dark blue ink
- Lined paper
- Stapler
- Watch
- Signs for the door to the testing room
  - "Exam in Progress"
  - "Cell phones are prohibited in the testing room"

SECTION I: Multiple Choice

▌ **Do not begin the exam instructions below until you have completed the appropriate**
● **General Instructions for your group.**

Make sure you begin the exam at the designated time. Remember: You must complete a seating chart for this exam. See pages 279–280 for a seating chart template and instructions. See the *2014-15 AP Coordinator's Manual* for exam seating requirements (pages 48–50, 88).

Macroeconomics

If you are giving the regularly scheduled exam, say:

> **It is Thursday afternoon, May 14, and you will be taking the AP Macroeconomics Exam.**

If you are giving the alternate exam for late testing, say:

> **It is Wednesday morning, May 20, and you will be taking the AP Macroeconomics Exam.**

Microeconomics

If you are giving the regularly scheduled exam, say:

> **It is Friday morning, May 15, and you will be taking the AP Microeconomics Exam.**

If you are giving the alternate exam for late testing, say:

> **It is Wednesday afternoon, May 20, and you will be taking the AP Microeconomics Exam.**

> **In a moment, you will open the packet that contains your exam materials. By opening this packet, you agree to all of the AP Program's policies and procedures outlined in the *2014-15 Bulletin for AP Students and Parents*. You may now remove the shrinkwrap from your exam packet and take out the Section I booklet, but do not open the booklet or the shrinkwrapped Section II materials. Put the white seals aside. . . .**

> **Carefully remove the AP Exam label found near the top left of your exam booklet cover. Now place it on page 1 of your answer sheet on the light blue box near the top right-hand corner that reads "AP Exam Label."**

If students accidentally place the exam label in the space for the number label or vice versa, advise them to leave the labels in place. They should not try to remove the label; their exam will be processed correctly.

> **Read the statements on the front cover of Section I and look up when you have finished. . . .**

> **Sign your name and write today's date. Look up when you have finished. . . .**

> **Now print your full legal name where indicated. Are there any questions? . . .**

> **Turn to the back cover and read it completely. Look up when you have finished. . . .**

> **Are there any questions? . . .**

ECONOMICS

You will now take the multiple-choice portion of the exam. You should have in front of you the multiple-choice booklet and your answer sheet. You may never discuss these specific multiple-choice questions at any time in any form with anyone, including your teacher and other students. If you disclose these questions through any means, your AP Exam score will be canceled. . . .

You must complete the answer sheet using a No. 2 pencil only. Mark all of your responses beginning on page 2 of your answer sheet, one response per question. Completely fill in the circles. If you need to erase, do so carefully and completely. No credit will be given for anything written in the exam booklet. Scratch paper is not allowed, but you may use the margins or any blank space in the exam booklet for scratch work. Calculators are not allowed on any part of this exam. Are there any questions? . . .

You have 1 hour and 10 minutes for this section. Open your Section I booklet and begin.

🕐 Note Start Time here _____. Note Stop Time here _____. Check that students are marking their answers in pencil on their answer sheets, and that they are not looking at their shrinkwrapped Section II booklets. After 1 hour, say:

There are 10 minutes remaining.

After 10 minutes, say:

Stop working. Close your booklet and put your answer sheet on your desk, face up. Make sure you have your AP number label and an AP Exam label on page 1 of your answer sheet. Sit quietly while I collect your answer sheets.

Collect an answer sheet from each student. Check that each answer sheet has an AP number label and an AP Exam label. After all answer sheets have been collected, say:

Now you must seal your exam booklet using the white seals you set aside earlier. Remove the white seals from the backing and press one on each area of your exam booklet cover marked "PLACE SEAL HERE." Fold each seal over the back cover. When you have finished, place the booklet on your desk, face up. I will now collect your Section I booklet. . . .

Collect a Section I booklet from each student. Check that each student has signed the front cover of the sealed Section I booklet.

There is a 10-minute break between Sections I and II. When all Section I materials have been collected and accounted for and you are ready for the break, say:

Please listen carefully to these instructions before we take a 10-minute break. All items you placed under your chair at the beginning of this exam must stay there, and you are not permitted to open or access them in any way. Leave your shrinkwrapped Section II packet on your desk during the break. You are not allowed to consult teachers, other students, or textbooks during the break. You may not make phone calls, send text messages, check email, use a social networking site, or access any electronic or communication device. Remember, you may never discuss the multiple-

choice questions at any time in any form with anyone, including your teacher and other students. If you disclose these questions through any means, your AP Exam score will be canceled. Are there any questions? . . .

🕐 **You may begin your break. Testing will resume at _____.**

SECTION II: Free Response

After the break, say:

May I have everyone's attention? Place your Student Pack on your desk. . . .

You may now remove the shrinkwrap from the Section II packet, but do not open the exam booklet until you are told to do so. . . .

Read the bulleted statements on the front cover of the exam booklet. Look up when you have finished. . . .

Now place an AP number label on the shaded box. If you don't have any AP number labels, write your AP number in the box. Look up when you have finished. . . .

Read the last statement. . . .

Using your pen, print the first, middle and last initials of your legal name in the boxes and print today's date where indicated. This constitutes your signature and your agreement to the statements on the front cover. . . .

Turn to the back cover and complete Item 1 under "Important Identification Information." Print the first two letters of your <u>last</u> name and the first letter of your <u>first</u> name in the boxes. Look up when you have finished. . . .

In Item 2, print your date of birth in the boxes. . . .

In Item 3, write the school code you printed on the front of your Student Pack in the boxes. . . .

Read Item 4. . . .

Are there any questions? . . .

I need to collect the Student Pack from anyone who will be taking another AP Exam. You may keep it only if you are not taking any other AP Exams this year. If you have no other AP Exams to take, place your Student Pack under your chair now. . . .

While Student Packs are being collected, read the information on the back cover of the exam booklet. Do not open the booklet until you are told to do so. Look up when you have finished. . . .

Collect the Student Packs. Then say:

Are there any questions? . . .

ECONOMICS

Section II begins with a recommended 10-minute reading period. You are advised to take advantage of the reading period to plan what you will write. It is designed to provide you with time to develop your responses. You may begin writing your exam responses before the 10 minutes is over. You may take notes on page 3 and the pages that contain the exam questions, but your responses must be written on the designated lined pages. Are there any questions? . . .

You have 50 minutes to answer the questions. You are responsible for pacing yourself, and may proceed freely from one question to the next. You must write your answers in the Section II booklet using a pen with black or dark blue ink. You are not permitted to use other colored pens or pencils to draw graphs or diagrams. If you need more paper during the exam, raise your hand. At the top of each extra sheet of paper you use, be sure to write only your AP number and the number of the question you are working on — for example, Question 1. Do not write your name. Are there any questions? . . .

Make sure to begin your response on the lined page directly following the first appearance of the question and continue your response on the additional lined pages that follow. Remember to write your answers on the lined pages provided for each question; only responses written on the lined pages will be scored.

You may now begin the 10-minute reading period.

Note Start Time here ⎯⎯⎯⎯. Note Stop Time here ⎯⎯⎯⎯. After 10 minutes, say:

The reading period is over. You should begin or continue writing your responses.

Note Start Time here ⎯⎯⎯⎯. Note Stop Time here ⎯⎯⎯⎯. Check that students are using pens and that they are writing their answers in their exam booklets. After 40 minutes, say:

There are 10 minutes remaining.

After 10 minutes, say:

Stop working and close your exam booklet. Place it on your desk, face up. . . . .

If any students used extra paper for the free-response section, have those students staple the extra sheet(s) to the first page corresponding to that question in their exam booklets. Complete an Incident Report and include any exam booklets with extra sheets of paper in an Incident Report return envelope (see page 57 of the *AP Coordinator's Manual* for details). Then say:

Remain in your seat, without talking, while the exam materials are collected. . . . .

Collect a Section II booklet from each student. Check for the following:

- Exam booklet front cover: The student placed an AP number label on the shaded box, and printed his or her initials and today's date.
- Exam booklet back cover: The student completed the "Important Identification Information" area.

When all exam materials have been collected and accounted for, return to students any electronic devices you may have collected before the start of the exam.

If you are giving the regularly scheduled exam, say:

> **You may not discuss or share these specific free-response questions with anyone exam unless they are released on the College Board website in about two days. Your AP Exam score results will be available online in July.**

If you are giving the alternate exam for late testing, say:

> **None of the questions in this exam may ever be discussed or shared in any way at any time. Your AP Exam score results will be available online in July.**

If any students completed the AP number card at the beginning of this exam, say:

> **Please remember to take your AP number card with you. You will need the information on this card to view your scores and order AP score reporting services online.**

Then say:

> **You are now dismissed.**

All exam materials must be placed in secure storage until they are returned to the AP Program after your school's last administration. Before storing materials, check the "School Use Only" section on page 1 of the answer sheet and:

- Fill in the appropriate section number circle in order to access a separate AP Instructional Planning Report (for regularly scheduled exams only) or subject score roster at the class section or teacher level. See "Post-Exam Activities" in the *2014-15 AP Coordinator's Manual.*
- Check your list of students who are eligible for fee reductions and fill in the appropriate circle on their registration answer sheets.

Be sure to give the completed seating chart to the AP Coordinator. Schools must retain seating charts for at least six months (unless the state or district requires that they be retained for a longer period of time). Schools should not return any seating charts in their exam shipments unless they are required as part of an Incident Report.

ECONOMICS

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 2015

◊ CollegeBoard

AP Number Label (from Student Pack)

AP Exam Label (from Section I Booklet)

B1234567789T

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 *2014-15 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

G. ONLINE PROVIDER CODE

H. AP EXAM I AM TAKING USING THIS ANSWER SHEET   Exam Name: Form: Form 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 / Day / Year (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec)

L. SOCIAL SECURITY NUMBER (Optional)

M. COLLEGE TO RECEIVE YOUR AP SCORE REPORT — Using the college code listed in the AP Student Pack, indicate the ONE college that you want to receive your AP score report. COLLEGE CODE / College Name / City / State / Country

N. CURRENT GRADE LEVEL — Not yet in 9th grade, 9th, 10th, 11th, 12th, No longer in high school

SCHOOL USE ONLY — Section Number 1 2 3 4 5 6 7 8 9

Fee Reduction Granted — 1 Option 1 2 Option 2

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104246-00657• UNLWEB315   Q3914/1-4

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

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 for Questions 1 through 120. 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	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	26	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	51	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	27	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	52	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	28	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	53	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	29	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	54	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
5	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	30	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	55	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
6	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	31	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	56	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
7	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	32	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	57	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
8	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	33	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	58	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
9	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	34	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	59	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
10	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	35	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	60	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
11	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	36	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	61	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
12	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	37	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	62	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
13	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	38	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	63	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
14	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	39	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	64	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
15	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	40	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	65	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
16	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	41	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	66	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
17	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	42	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	67	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
18	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	43	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	68	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
19	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	44	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	69	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
20	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	45	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	70	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
21	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	46	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	71	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
22	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	47	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	72	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
23	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	48	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	73	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
24	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	49	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	74	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
25	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	50	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	75	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

ETS USE ONLY

Exam: ⓪①②③④⑤⑥⑦⑧⑨　⓪①②③④⑤⑥⑦⑧⑨
Exam: ⓪①②③④⑤⑥⑦⑧⑨　⓪①②③④⑤⑥⑦⑧⑨

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

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)

QUESTIONS 121–126

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

(griddable answer grids with digits 0–9 and decimal point, slash, and negative sign)

QUESTIONS 131–142

For Students Taking AP Physics 1 or AP Physics 2

Mark two responses per question. You will receive credit only if both correct responses are selected.

131 (A) (B) (C) (D)	135 (A) (B) (C) (D)	139 (A) (B) (C) (D)
132 (A) (B) (C) (D)	136 (A) (B) (C) (D)	140 (A) (B) (C) (D)
133 (A) (B) (C) (D)	137 (A) (B) (C) (D)	141 (A) (B) (C) (D)
134 (A) (B) (C) (D)	138 (A) (B) (C) (D)	142 (A) (B) (C) (D)

DO NOT WRITE IN THIS AREA

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

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

ZIP or Postal Code

Country

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 *2014-15 Bulletin for AP Students and Parents.*

S. STUDENT IDENTIFIER (Student ID Number)

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

In the first column, indicate the highest level of education of your parent/guardian. If you have two parents/guardians, indicate the level of education for your other parent/guardian in the second column. In the appropriate column for each parent/guardian, indicate whether this is your mother or female guardian or your father or male guardian.

○ Grade school
○ Some high school
○ High school diploma or equivalent
○ Vocational 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

○ Mother or female guardian
○ Father or male guardian

Section I: Multiple-Choice Questions

This is the multiple-choice section of the 2015 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 I: Multiple Choice

2015

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.
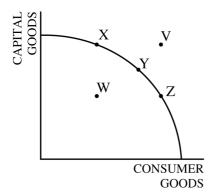
Form I
Form Code 4KBP6-S

34

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.

Questions 1-2 are based on the production possibilities curve depicted below.

1. Given the production possibilities curve above, which of the following represents a movement from efficiency to inefficiency?

   (A) Point X to point W
   (B) Point X to point Z
   (C) Point Y to point Z
   (D) Point W to point Z
   (E) Point V to point Y

2. Based on a comparison of points X, Y, and Z, the opportunity cost of an additional consumer good is

   (A) highest at point X
   (B) highest at point Y
   (C) highest at point Z
   (D) lowest at point Y
   (E) the same at points X, Y, and Z

Price per Gallon	Quantity Supplied	Quantity Demanded
$2.50	11,000	17,000
$2.75	12,000	16,000
$3.00	13,000	15,000
$3.25	14,000	14,000
$3.50	15,000	13,000
$3.75	16,000	12,000

3. The table above shows the quantity of gasoline supplied and demanded at various prices in a country. If the government sets a price floor of $2.75 on a gallon of gasoline, what is the price per gallon?

   (A) $2.75
   (B) $3.00
   (C) $3.25
   (D) $3.50
   (E) $3.75

4. Last year 17 million tons of beans were sold for $300 per ton. This year 17 million tons of beans were sold for $285 per ton. Which of the following changes in demand and supply could have caused this outcome?

	Demand	Supply
(A)	Increase	Increase
(B)	Increase	Decrease
(C)	Decrease	Increase
(D)	Decrease	Decrease
(E)	Increase	No change

GO ON TO THE NEXT PAGE.

5. Which of the following will most likely happen in the market for good X if the price of good X decreases?

   (A) The supply of good X will decrease.
   (B) The demand for good X will increase.
   (C) The quantity demanded for good X will increase.
   (D) The demand will decrease and the supply will increase.
   (E) The quantity supplied for good X will increase.

6. Let MU_s be the marginal utility of a sandwich, MU_h be the marginal utility of a hot dog, P_s be the price of a sandwich, and P_h be the price of a hot dog. When the price of the goods is zero, Pat eats a sandwich. When Pat has to pay, she eats a hot dog. When Pat has to pay, which of the following is necessarily true?

   (A) $MU_s = MU_h = P_s = P_h$
   (B) $(MU_s / P_s) > (MU_h / P_h)$
   (C) $P_s < P_h$
   (D) $P_s > P_h$
   (E) $MU_s = 0$

7. Assume that labor is the only variable input. If a firm's short-run marginal cost is increasing as output rises, which of the following must be true?

   (A) Average product of labor is constant.
   (B) Average product of labor is increasing.
   (C) Marginal product of labor is greater than average product of labor.
   (D) Marginal product of labor is decreasing.
   (E) Total product of labor is decreasing.

8. Which of the following is most likely to occur if a single-price monopolist is replaced by a perfectly competitive market?

   (A) Prices will increase.
   (B) The deadweight loss will decrease.
   (C) Profits will increase.
   (D) Output will decrease.
   (E) The firm's cost curves will shift upward.

9. Suppose that price in a perfectly competitive industry decreases and it is now below minimum average total cost but remains above minimum average variable cost. Which of the following will occur in the short run?

   (A) New firms will enter the industry.
   (B) Firms will increase output so that marginal revenue equals the new price.
   (C) Firms will produce the output at which average total cost is at a minimum.
   (D) Firms will produce the output at which marginal cost equals the new price.
   (E) Firms will not produce at all, since they will be unable to cover all their costs.

10. Which of the following is true for both a monopolistically competitive firm and a perfectly competitive firm in long-run equilibrium?

   (A) Marginal cost is greater than marginal revenue.
   (B) Price is greater than marginal cost.
   (C) Price is equal to average total cost.
   (D) Price is equal to marginal cost.
   (E) Marginal revenue is equal to average revenue.

GO ON TO THE NEXT PAGE.

11. Which of the following will most likely lead to zero economic profits?

(A) Price floors
(B) Price discrimination
(C) External costs
(D) Free entry and exit of firms
(E) External benefits

12. A perfectly competitive firm hires three workers in a perfectly competitive labor market. The marginal products of the three workers are shown in the table below.

Worker	Marginal Product
1	50
2	30
3	20

Which of the following will be true?

(A) Each worker will receive a wage based on the marginal product of the last worker hired.
(B) Each worker will receive a wage based on the marginal product of the first worker hired.
(C) Each worker will receive a wage based on the average of the marginal products of the workers.
(D) Worker 1 will receive the highest wage.
(E) Worker 3 will receive the highest wage.

13. Assume a perfectly competitive labor market. Which of the following correctly describes the individual firm's demand curve for labor and the market demand curve for labor?

	Firm's Demand Curve for Labor	Market Demand Curve for Labor
(A)	Downward sloping	Downward sloping
(B)	Downward sloping	Horizontal
(C)	Horizontal	Downward sloping
(D)	Horizontal	Horizontal
(E)	Horizontal	Upward sloping

——————————————————————————

14. When consumption of a good generates a positive externality, which of the following must be true at the market equilibrium?

(A) Marginal social benefit is less than marginal private cost.
(B) Marginal social benefit is greater than marginal private benefit.
(C) Marginal social cost is greater than marginal social benefit.
(D) Marginal social cost is less than marginal private benefit.
(E) Marginal social cost is equal to marginal external benefit.

GO ON TO THE NEXT PAGE.

15. National defense is an example of a public good because

(A) it requires tax revenues to fund any production
(B) one person's use of it will decrease another person's ability to use it
(C) it is nonexcludable and nonrival
(D) the private market typically produces the socially efficient level of output
(E) the public is protected from invasion

16. The amount of product Z that must be forgone in order to obtain some amount of product Y is called

(A) factor payments
(B) opportunity cost
(C) marginal product
(D) income effect
(E) substitution effect

17. Which of the following is necessary in a well-functioning capitalist economy but not in a command economy?

(A) Centralized decision making
(B) Scarcity of resources
(C) Monopolies
(D) Protection of property rights
(E) Positive externalities

18. If an unusually cold summer destroyed a large portion of the bee population, the equilibrium price and quantity of honey produced by bees will most likely change in which of the following ways?

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

19. If the demand for insulin is price inelastic, a 5 percent increase in the price of insulin will

(A) have no effect on the total revenue of insulin producers
(B) increase the total revenue of insulin producers
(C) decrease the total revenue of insulin producers
(D) decrease the total spending on insulin by consumers
(E) cause the demand for insulin to be less elastic

20. Which of the following would shift the short-run supply curve for strawberries?

(A) A decrease in the consumption of strawberries
(B) An increase in the price of strawberries
(C) A strike by all farmworkers
(D) An increase in household incomes
(E) An announcement of a study that shows the health benefits of eating strawberries

21. Assume that good X is a normal good. Which of the following helps to explain why a decrease in the price of good X increases the quantity demanded of good X?

(A) Good X becomes relatively less expensive than its substitutes, so consumers buy more of good X and fewer of the substitutes.
(B) The marginal utility of consuming good X increases as more of good X is consumed.
(C) The lower price of good X decreases the marginal utility per dollar; therefore, consumers buy more of good X.
(D) The demand curve for good X shifts to the left.
(E) The supply curve for good X shifts to the right.

GO ON TO THE NEXT PAGE.

22. Which of the following conditions is necessary for productive efficiency?

(A) The firm is producing at the point where the marginal product of labor is greater than the average product of labor.
(B) The firm is producing a given level of output with a least-cost combination of inputs.
(C) Consumer surplus is minimized.
(D) There are external costs.
(E) There is no government regulation.

23. Which of the following indicates that a firm is experiencing economies of scale?

(A) The firm's long-run supply curve is horizontal.
(B) The firm's long-run marginal cost increases as output increases.
(C) The firm's long-run average total cost decreases as output increases.
(D) The firm's long-run total cost decreases as output increases.
(E) The firm's total revenues increase as output sold increases.

24. All of the following characterize both perfectly competitive and monopolistically competitive markets EXCEPT:

(A) Price is equal to average revenue.
(B) Individual firms produce output where marginal cost equals marginal revenue.
(C) Firms can affect the selling price of their product.
(D) The market has a large number of firms.
(E) Firms can easily enter or exit the market.

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

(A) Price exceeds marginal revenue, and the firm earns positive economic profits.
(B) Price equals marginal revenue, and the firm earns positive economic profits.
(C) Price equals marginal cost, and the firm earns zero economic profits.
(D) Price exceeds marginal cost, and the firm earns zero economic profits.
(E) Price exceeds marginal cost, and the firm earns positive economic profits.

26. A firm is producing the allocatively efficient level of output if

(A) total revenue is equal to total cost
(B) marginal revenue is equal to marginal cost
(C) price is equal to average total cost
(D) price is equal to marginal cost
(E) price is equal to total cost

27. Assume that labor and capital are the only two inputs a perfectly competitive firm uses to produce wheat. The firm hires its inputs in perfectly competitive input markets. The unit price of labor is $8 and of capital is $20. When the firm employs the profit-maximizing combination of these two inputs, the marginal product of labor is 2 tons of wheat and of capital is 5 tons of wheat. The price of wheat per ton must be

(A) $ 2
(B) $ 4
(C) $ 5
(D) $ 8
(E) $10

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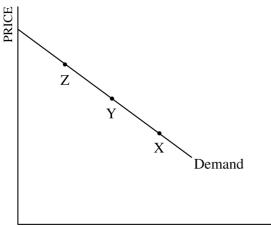
28. A profit-maximizing firm will continue to hire workers until the marginal revenue product of labor is equal to the

    (A) marginal product of labor
    (B) marginal revenue product of capital
    (C) demand for labor
    (D) price of the good that labor is producing
    (E) marginal factor cost

29. If the production of a good generates a negative externality, which of the following is true at the private market equilibrium?

    (A) The private market equilibrium quantity is greater than the socially optimal quantity.
    (B) The private market equilibrium quantity is equal to the socially optimal quantity.
    (C) The marginal private cost is greater than the marginal social cost.
    (D) The marginal social benefit is greater than the marginal social cost.
    (E) The price of the product equals the marginal social cost.

30. Which of the following is most likely to make a country's income distribution more equal?

    (A) Establishing a national sales tax on food and clothing
    (B) Establishing a progressive income tax system
    (C) Eliminating excise taxes on luxury goods
    (D) Proportionally decreasing the tax rate for all income groups
    (E) Reducing the subsidy to education

31. The table below shows the number of hours it takes for Kim to install a computer or to paint a garage and for Maria to install a computer or to paint a garage.

	Kim	Maria
Install computer	2 hours	4 hours
Paint garage	10 hours	12 hours

    If tasks are assigned according to comparative advantage, which of the following is true?

    (A) Kim should perform both tasks.
    (B) Maria should perform both tasks.
    (C) Kim should install computers and Maria should paint garages.
    (D) Kim should paint garages and Maria should install computers.
    (E) Kim and Maria should both install computers.

PRICE (vertical axis), QUANTITY OF AUTOMOBILES (horizontal axis), points Z, Y, X on Demand curve

32. In the figure above, at which of the given points is demand most elastic?

(A) X
(B) Y
(C) Z
(D) The elasticity is the same for all points.
(E) The relative elasticity cannot be determined with the given information.

33. Consumer surplus exists because of the

(A) surplus of money that wealthy consumers hold
(B) surplus in marginal product that firms get when they hire an additional worker
(C) willingness of some consumers to pay a price higher than the market price for some units of a good
(D) additional utility that households obtain when the prices of substitutes fall
(E) increase in the availability of goods when income rises

34. Which of the following is a key assumption of consumer choice theory?

(A) Consumers buy goods as long as implicit costs are greater than explicit costs.
(B) Consumers maximize their utility.
(C) As income rises, consumers buy more of all goods.
(D) Marginal utility is always increasing.
(E) As more inputs are used, consumers get less and less additional output.

35. Economic profit can be calculated as accounting profit minus which of the following?

(A) Fixed costs
(B) Implicit costs
(C) Marginal costs
(D) Explicit costs
(E) Total costs

Quantity (units)	Total Cost
0	$30
1	40
2	47
3	51
4	59

36. The table above shows a firm's total cost of producing various units of output. What is the average variable cost of producing three units?

   (A) $4
   (B) $7
   (C) $10
   (D) $17
   (E) Cannot be determined from the given information

37. Assume that Alpha and Beta are the only sellers of a product and they do not cooperate. Each firm has to decide whether to raise the product price. The payoff matrix below gives the profits, in dollars, associated with each pair of pricing strategies. The first entry in each cell shows the profits to Alpha, and the second, the profits to Beta.

		Beta	
		Raise Price	Do Not Raise Price
Alpha	Raise Price	$100, $100	$30, $120
	Do Not Raise Price	$110, $20	$50, $70

Assuming both firms know the information in the matrix, which of the following correctly describes the dominant strategy of each firm?
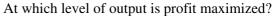
	Alpha	Beta
(A)	Do not raise price	Do not raise price
(B)	Do not raise price	Raise price
(C)	Raise price	No dominant strategy
(D)	Raise price	Do not raise price
(E)	No dominant strategy	Raise price

38. In the graph below, TC is total cost and TR is total revenue.
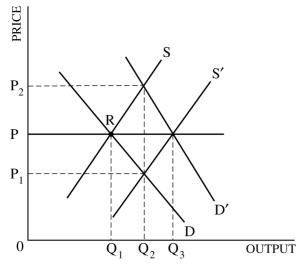

At which level of output is profit maximized?

   (A) Q_1
   (B) Q_2
   (C) Q_3
   (D) Q_4
   (E) Q_5

-10-

Questions 39-40 are based on the graph below showing the long-run adjustment of a constant-cost perfectly competitive industry.

CORN MARKET

39. Assume that the corn market is initially in long-run equilibrium at point R. What are the short-run and long-run prices of corn if more corn is used as a source of alternative energy?

	Short Run	Long Run
(A)	P	P_1
(B)	P	P_2
(C)	P_1	P_2
(D)	P_2	P_1
(E)	P_2	P

40. The long-run industry supply curve for corn is

    (A) upward sloping
    (B) downward sloping
    (C) horizontal
    (D) downward sloping at first and then upward sloping
    (E) upward sloping at first and then downward sloping

41. Which of the following is necessarily true at a monopolist's profit-maximizing level of output?

    (A) Marginal revenue is equal to marginal cost, but greater than price.
    (B) Marginal revenue is equal to marginal cost, but less than price.
    (C) Marginal revenue is equal to both marginal cost and price.
    (D) Average total cost is minimized.
    (E) Average variable cost is minimized.

42. Assume that the government imposes an effective minimum wage in a perfectly competitive labor market. What will happen to employment and total wage payments?

	Employment	Total Wage Payments
(A)	Decrease	Increase
(B)	Decrease	Decrease
(C)	Decrease	Indeterminate
(D)	Increase	Increase
(E)	Increase	Indeterminate

43. Suppose that people who work in the paint industry face a great risk of developing an incurable disease. A medical breakthrough that eliminates the risk will most likely cause which of the following shifts in the supply and demand curves for workers in the paint industry?

	Supply Curve	Demand Curve
(A)	Shift right	No shift
(B)	Shift left	No shift
(C)	Shift left	Shift left
(D)	Shift left	Shift right
(E)	No shift	Shift left

GO ON TO THE NEXT PAGE.

44. Assuming that all residents of the city of Smallville prefer to have streetlights installed citywide, which of the following best explains why individual residents do not install the optimal number of streetlights?

(A) Streetlights generate negative externalities.
(B) Streetlights are nonexcludable.
(C) Installing streetlights results in diseconomies of scale.
(D) The marginal cost of installing streetlights is zero.
(E) The marginal benefit of installing streetlights is zero.

45. Antitrust policy is designed to

(A) encourage businesses to produce public goods
(B) establish trust between the government and the business community
(C) prevent businesses from earning profits
(D) maintain a competitive business environment
(E) ensure that businesses earn only zero economic profits in the long run

46. Which of the following is true of an economy's production possibilities curve?

(A) It shows the combinations of any two resources that can be used to produce an efficient level of output.
(B) It shows the alternative combinations of goods that can be produced by fully employing scarce resources.
(C) It must be a straight line when all resources are fully employed.
(D) It is bowed in (convex to the origin) because of changing levels of technology.
(E) It is bowed out (concave to the origin) when marginal opportunity costs are constant.

47. If shirts and ties are complements and if the price of shirts increases due to an increase in the price of cotton, which of the following is most likely to occur in the market for ties in the short run?

(A) The equilibrium price and quantity of ties will increase.
(B) The equilibrium price and quantity of ties will decrease.
(C) The equilibrium price of ties will increase and the equilibrium quantity will decrease.
(D) The supply of ties will increase.
(E) The demand for ties will increase.

48. Which of the following is true of the cross-price elasticity of demand?

(A) It can indicate if a good is a necessity or a luxury.
(B) It is greater than zero for two goods that are substitutes.
(C) It is close to zero if the two goods are closely related.
(D) It is always negative because demand curves are downward sloping.
(E) It increases as income increases.

49. Oscar spent his entire income on only two goods: good X and good Y. At his current consumption of the two goods, the marginal utility of X is 8 and the marginal utility of Y is 2. If the price of X is $4.00 and the price of Y is $0.50, then to maximize his total utility, Oscar should have

(A) bought more X and more Y
(B) bought more X and less Y
(C) bought less X and more Y
(D) bought less X and less Y
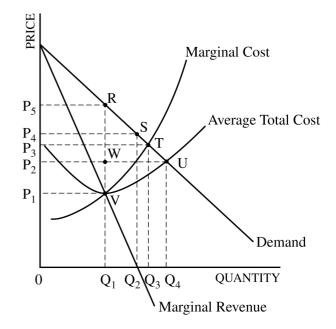(E) maintained his current consumption

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50. In the short run, a profit-maximizing firm, faced with U-shaped average cost curves, is producing a level of output at which the average total cost of production is minimized. At this level of output, which of the following is true for the firm?

(A) Marginal cost equals average fixed cost.
(B) Marginal cost equals average variable cost.
(C) Marginal cost equals average total cost.
(D) Profit per unit equals average total cost.
(E) Profit per unit equals marginal cost.

51. Which of the following must be true for a firm that is a natural monopoly?

(A) It can produce and supply its product to an entire market at a lower cost than could a number of smaller firms.
(B) It produces at the minimum of its average total cost curve.
(C) It has a patent on its product.
(D) It will not be able to maximize profits unless subsidized by the government.
(E) It is productively efficient for the government to break up the monopoly into smaller firms.

52. In the short run, if a firm produces the level of output at which marginal revenue is equal to marginal cost but price is less than average total cost, the firm will

(A) always shut down production
(B) expand output to lower its average fixed cost
(C) continue to operate if price is greater than its average variable cost
(D) decrease output until price equals its average total cost
(E) increase output to increase revenue

53. Assume that a firm uses only one variable input. If a firm is experiencing diminishing returns, which of the following is true as more of the variable input is used?

(A) Marginal cost will decrease at a constant rate.
(B) Marginal cost will decrease at a diminishing rate.
(C) Marginal cost will increase.
(D) Marginal product will increase at a constant rate.
(E) Marginal product will increase at a diminishing rate.

54. Assuming a linear downward-sloping demand curve, as a monopoly firm sells additional units of output, its marginal revenue will

(A) increase at an increasing rate
(B) increase at first, then decrease
(C) decrease at first, then increase
(D) decrease continuously
(E) remain constant

55. Collusion, price leadership, and price wars are usually observed in which of the following market structures?

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

GO ON TO THE NEXT PAGE.

56. A firm sells its output in a perfectly competitive market and hires two inputs, capital and labor, in perfectly competitive factor markets. The product price is $15 per unit, the wage is $75 per day, and the marginal product of capital is 3. If the firm is choosing the least-cost combination of labor and capital, the firm's marginal product of labor and the price of capital must be equal to which of the following?

	Marginal Product of Labor	Price of Capital
(A)	25	$5
(B)	25	$45
(C)	5	$15
(D)	5	$25
(E)	5	$45

Questions 57-58 refer to the graph of a monopolist shown below.

57. If the monopolist is unregulated, its profit-maximizing price and output level would lead to a deadweight loss equal to area

(A) RUV
(B) RTV
(C) RTW
(D) TUV
(E) UVW

58. If the government regulates the monopolist to set price equal to average total cost, it will establish the price at

(A) P_5
(B) P_4
(C) P_3
(D) P_2
(E) P_1

59. Which of the following about the relationship between marginal revenue (MR) and price (P) under monopolistic competition and perfect competition is correct?

	Monopolistic Competition	Perfect Competition
(A)	MR>P	MR=P
(B)	MR<P	MR=P
(C)	MR decreases when P increases.	MR increases when P decreases.
(D)	MR=P	MR=P
(E)	MR=P	MR<P

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60. In the monopsonistic labor market shown in the diagram above, which of the following indicates the number of workers the firm will hire and the wage rate it will pay?

	Number of Workers	Wage Rate
(A)	L_1	W_1
(B)	L_1	W_2
(C)	L_1	W_3
(D)	L_2	W_2
(E)	L_2	W_4

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**

Section II: Free-Response Questions

This is the free-response section of the 2015 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

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

4. Unless I check the box below, I grant the College Board the unlimited right to use, reproduce, and publish my free-response materials, both written and oral, for educational research and instructional purposes. My name and the name of my school will not be used in any way in connection with my free-response materials. I understand that I am free to mark "No" with no effect on my score or its reporting.

   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.

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 4KBP6-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. 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.

GO ON TO THE NEXT PAGE.

1. Raphael's hair salon is a monopoly in a small town and is currently earning an economic profit.

   (a) Draw a correctly labeled graph for Raphael and include the curves that are necessary to identify the following.

      (i) The profit-maximizing price and quantity of haircuts, labeled P_m and Q_m

      (ii) The area representing economic profits, shaded completely

   (b) Does Raphael's hair salon produce the allocatively efficient quantity? Explain.

   (c) Assume that Raphael signs a new lease with an increase in rent, a fixed cost. Will the price of haircuts provided by Raphael increase, decrease, or stay the same in the short run? Explain.

   (d) Assume that new hair salons enter the market and that the market becomes monopolistically competitive. Answer each of the following.

      (i) The entry of new hair salons creates close substitutes for each individual salon's services. As a result, will the demand for Raphael's hair salon become more elastic or become less elastic, or will there be no change in the elasticity?

      (ii) Will the entry cause the demand curve for Raphael's haircuts to shift to the left, shift to the right, or stay the same?

      (iii) In long-run equilibrium, will Raphael's hair salon produce the productively efficient quantity? Explain.

   _____

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

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ANSWER PAGE FOR QUESTION 1

Question 1 is reprinted for your convenience.

1. Raphael's hair salon is a monopoly in a small town and is currently earning an economic profit.

   (a) Draw a correctly labeled graph for Raphael and include the curves that are necessary to identify the following.

      (i) The profit-maximizing price and quantity of haircuts, labeled P_m and Q_m

      (ii) The area representing economic profits, shaded completely

   (b) Does Raphael's hair salon produce the allocatively efficient quantity? Explain.

   (c) Assume that Raphael signs a new lease with an increase in rent, a fixed cost. Will the price of haircuts provided by Raphael increase, decrease, or stay the same in the short run? Explain.

   (d) Assume that new hair salons enter the market and that the market becomes monopolistically competitive. Answer each of the following.

      (i) The entry of new hair salons creates close substitutes for each individual salon's services. As a result, will the demand for Raphael's hair salon become more elastic or become less elastic, or will there be no change in the elasticity?

      (ii) Will the entry cause the demand curve for Raphael's haircuts to shift to the left, shift to the right, or stay the same?

      (iii) In long-run equilibrium, will Raphael's hair salon produce the productively efficient quantity? Explain.

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WRITE ALL YOUR RESPONSES ON THE LINED PAGES.

ADDITIONAL PAGE FOR ANSWERING QUESTION 1

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2. The market for apartments in the town of Westville is currently in equilibrium, and consumers are renting 700 apartments at a price of $1,000 per apartment.

(a) Assuming that the supply of apartments is perfectly inelastic, draw a correctly labeled graph for the apartment market and label the equilibrium price and quantity using the values above.

(b) Now assume the government imposes a price (rent) ceiling of $800 for an apartment. On your graph in part (a), show the following.

   (i) The price ceiling at $800

   (ii) The quantity demanded, labeled as Q_d

   (iii) The quantity supplied, labeled as Q_s

(c) On your graph, shade completely the area representing the consumer surplus after the imposition of the price ceiling.

(d) Calculate the dollar value of the producer surplus after the imposition of the price ceiling. <u>Show your work</u>.

(e) Explain why the imposition of the price ceiling does not result in a deadweight loss.

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

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WRITE ALL YOUR RESPONSES ON THE LINED PAGES.

GO ON TO THE NEXT PAGE.

ANSWER PAGE FOR QUESTION 2

ADDITIONAL PAGE FOR ANSWERING QUESTION 2

3. Coldbox Corporation hires its workers in a perfectly competitive labor market and produces and sells frozen peas in a perfectly competitive product market. The market price for frozen peas is $4 per bag. The table below shows Coldbox' short-run production of frozen peas. Labor is the only variable input. Coldbox Corporation's fixed cost is $500.

Number of Workers	Bags of Frozen Peas
0	0
1	60
2	140
3	250
4	320
5	380
6	400

(a) When Coldbox hires the second worker, does it experience diminishing returns? Explain.

(b) Calculate the average fixed cost if Coldbox hires 3 workers. Show your work.

(c) If the wage is $200 per worker, identify the profit-maximizing number of workers for Coldbox. Explain using marginal analysis.

(d) If the price of frozen peas decreases by $2 per bag, would the number of workers hired by Coldbox be more than, less than, or equal to the number of workers you identified in part (c) ? Explain.

(e) Suppose that Coldbox hires workers from a monopsonistic labor market. Would the wage be higher, lower, or equal to the equilibrium wage in a perfectly competitive labor market?

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

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WRITE ALL YOUR RESPONSES ON THE LINED PAGES.

ADDITIONAL PAGE FOR ANSWERING QUESTION 3

STOP

END OF EXAM

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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 <u>AND</u> BACK
  COVERS OF THE SECTION II BOOKLET.

- CHECK TO SEE THAT YOUR AP NUMBER LABEL APPEARS IN
  THE BOX ON THE COVER.

- MAKE SURE YOU HAVE USED THE SAME SET OF AP
  NUMBER LABELS ON <u>ALL</u> 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

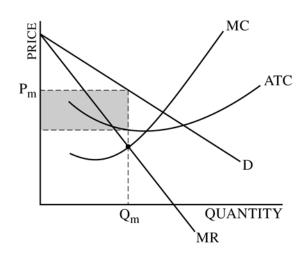|	
Question 1: A	Question 31: C
Question 2: C	Question 32: C
Question 3: C	Question 33: C
Question 4: C	Question 34: B
Question 5: C	Question 35: B
Question 6: D	Question 36: B
Question 7: D	Question 37: A
Question 8: B	Question 38: C
Question 9: D	Question 39: E
Question 10: C	Question 40: C
Question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

(a) 5 points:
- One point is earned for drawing a graph with correctly labeled axes, downward sloping demand curve, and MR below the demand curve.
- One point is earned for identifying the profit-maximizing quantity, Q_m, at MR=MC.
- One point is earned for identifying the price, P_m, derived from the demand curve above Q_m.
- One point is earned for drawing MC passing through the minimum point on a u-shape ATC curve (or correct MC/ATC).
- One point is earned for showing the area that represents the profit, completely shaded.

(b) 1 point:
- One point is earned for stating no with the explanation that at Q_m, P>MC.

(c) 1 point:
- One point is earned for stating that the price stays the same because rent is a fixed cost that affects only the ATC or does not affect the MC (or does not affect the marginal values).
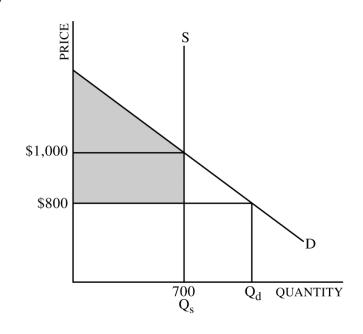
(d) 3 points:
- One point is earned for stating that the demand becomes more elastic.
- One point is earned for stating that Raphael's demand curve shifts to the left.
- One point is earned for stating that Raphael's hair salon does not produce the productively efficient quantity because the quantity Raphael produces does not minimize long-run ATC (or Q is to the left of the minimum point on ATC).

Question 2

7 Points (1+3+1+1+1)

(a) 1 point:
  - One point is earned for drawing a graph with correctly labeled axes, supply, demand, and identifying equilibrium price and quantity as $1000 and 700.

(b) 3 points:
  - One point is earned for showing the price ceiling of $800 below $1000.
  - One point is earned for showing Q_d derived from the demand curve at $800.
  - One point is earned for showing Q_s derived from the supply curve at $800.

(c) 1 point:
  - One point is earned for showing the area representing the consumer surplus shaded completely.

Note: If the supply curve from part (a) is not perfectly inelastic, no points can be awarded in parts (d) and (e).

(d) 1 point:
  - One point is earned for calculating the producer surplus: $800×700 = $560,000.

(e) 1 point:
  - One point is earned for the explanation that the quantity supplied does not change after the imposition of the price ceiling.

Question 3

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

(a) 1 point:
- One point is earned for stating that diminishing returns does not set in with the second worker because the marginal product, MP, is increasing (MP of the first worker is 60 and the MP of the second worker is 80).

(b) 1 point:
- One point is earned for calculating the AFC = $500 ÷ 250 = $2.

(c) 1 point:
- One point is earned for stating that the profit-maximizing number of workers is 5. The MRP of the fifth worker is $240 > the wage rate $200. For the sixth worker, the MRP is $80 < the wage rate of $200.

(d) 1 point:
- One point is earned for stating that the number of workers hired will be less than the number of workers in part (c), because the decrease in the price of peas decreases the marginal revenue product of labor (MRP).

(e) 1 point:
- One point is earned for stating that the wage will be lower.

Scoring Worksheet

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

2015 AP Microeconomics Scoring Worksheet

Section I: Multiple Choice

$$\underline{\hspace{4cm}} \times 1.0000 = \underline{\hspace{5cm}}$$

Number Correct   Weighted Section I Score
(out of 60)   (Do not round)

Section II: Free Response

Question 1 $\underline{\hspace{3cm}} \times 1.5000 = \underline{\hspace{3cm}}$
         (out of 10)   (Do not round)

Question 2 $\underline{\hspace{3cm}} \times 1.0714 = \underline{\hspace{3cm}}$
         (out of 7)   (Do not round)

Question 3 $\underline{\hspace{3cm}} \times 1.5000 = \underline{\hspace{3cm}}$
         (out of 5)   (Do not round)

$$\text{Sum} = \underline{\hspace{3cm}}$$

Weighted
Section II
Score
(Do not round)

Composite Score

$$\underline{\hspace{4cm}} + \underline{\hspace{4cm}} = \underline{\hspace{4cm}}$$

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

AP Score Conversion Chart
Microeconomics

Composite Score Range	AP Score
71-90	5
57-70	4
46-56	3
36-45	2
0-35	1

AP Microeconomics