

Econ 101-Fall 2008, Lecture 2
Midterm exam 2

Professor Kelly
November 18th, 2008

Version #1

Student Name: _____ **ID#** _____ **Discussion #** _____

You have 75 minutes to answer the exam. The exam contains 12 binary choice questions worth 2 points each and 25 multiple choice questions worth 3 points each. You will get 1 point for filling in your name, student ID number, number of the discussion section that you are enrolled in, and version number correctly. Please answer all questions on the scantron sheet with a #2 pencil. Be sure to fill in the scantron carefully and accurately.

No cell phones, calculators, or formula sheets are allowed. Cheating will not be tolerated.

Pick the best answer for each question.

How to fill in the coding sheet:

1. Print your last name, first name, and middle initial in the spaces marked “Last Name”, “First Name” and “MI.” Fill in the corresponding bubbles below.
2. Print your student identification number in the spaces marked “Identification Number.” Fill in the bubbles.
3. Write the discussion section number for which you are officially registered under “Special Codes” spaces **ABC**, and fill in the bubbles. Discussion sections are at the bottom of page:
4. Finally, after filling in your section code, please put **the exam version number** in the “Special Codes” spaces. You will end up with a 4-digit “Special Codes” number – a three digit number followed by a one digit exam version number.

Jin Yan

331 R 3:30
 340 F 9:55
 336 F 11:00
 342 F 2:25

Ying-Ying Lee

333 R 4:35
 346 F 8:50
 343 F 11:00
 338 F 12:05

Atsuko Tanaka

332 R 4:35
 334 F 1:20
 337 F 2:25

Carly Urban

345 F 7:45
 341 F 9:55
 339 F 12:05
 335 F 1:20

Ker Zhang

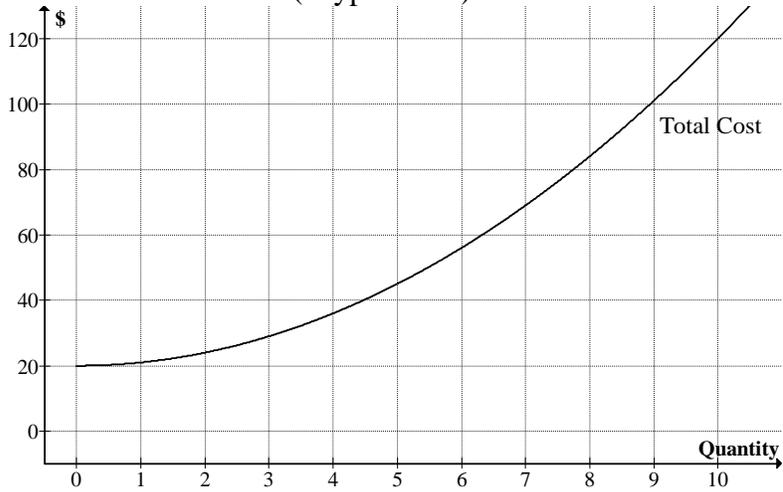
330 R 3:30
 347 F 8:50

If there is an error on the exam or you do not understand something, make a note on your exam booklet and the issue will be addressed AFTER the examination is complete. No questions regarding the exam can be addressed while the exam is being administered.

When you are finished, please get up quietly and bring your scantron sheet and this exam booklet to the place indicated by the instructors.

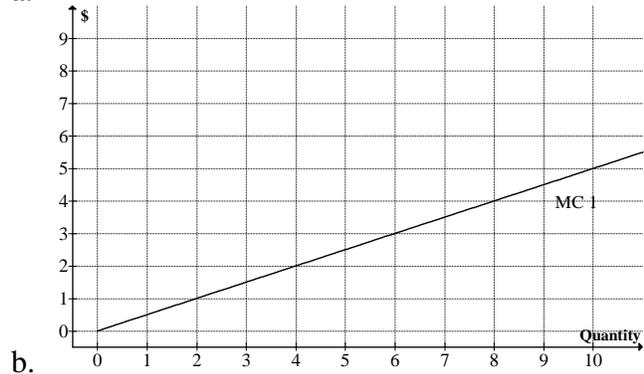
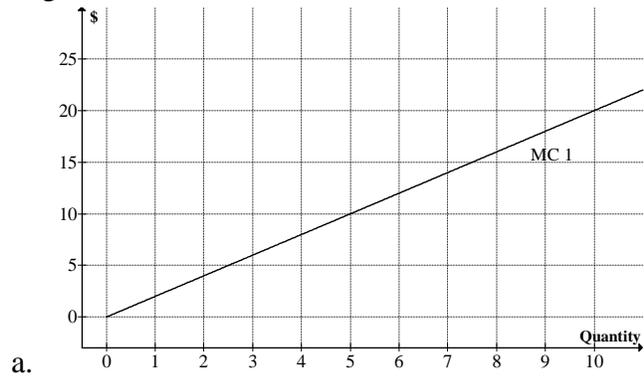
Binary Choice Section

Use the following diagram to answer the next 2 questions. In this graph the horizontal axis measures BMWs (a type of car) while the vertical axis measures total cost in dollars.



1. According to the diagram, as the total cost of producing BMWs increases, the marginal cost of producing an additional BMW
 - a. Increases
 - b. Decreases

2. Which of the following marginal cost curves would correspond to the total cost curve given

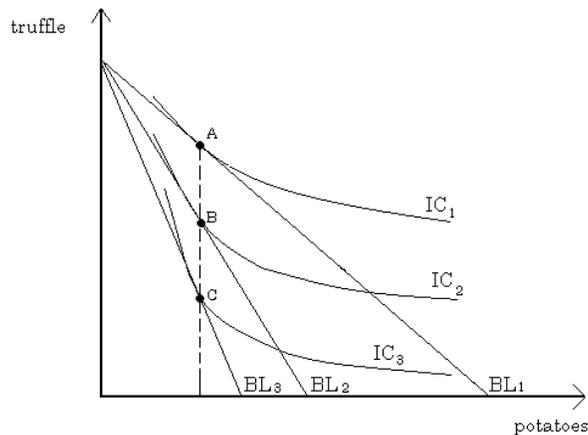


3. Suppose in the market for automobiles, in the open economy of the United States, the domestic demand curve is linear and downward sloping while the domestic supply curve is linear and upward sloping. Assume the world price of automobiles is lower than the closed market domestic equilibrium price in the United States. Which of the following statements is correct?
 - a. Since the imposition of a tariff will make the price in the United States higher than the world price, the imposition of a tariff will result in foreign producers earning higher profits in the United States than they earn in other countries.
 - b. The imposition of a tariff on automobiles in the open economy of the United States will result in an increase in domestic production of automobiles in the United States.
4. Sammy considers 2 wooden pencils to be a perfect substitute for 1 mechanical pencil. The price of 1 wooden pencil is \$2, and the price of 1 mechanical pencil is \$3. Sammy has an income of \$18. What is Sammy's optimal consumption bundle?
 - a. 0 wooden pencils and 6 mechanical pencils
 - b. 9 wooden pencils and 0 mechanical pencils
5. Suppose as output increases for a firm, marginal cost is greater than average total cost. This means that
 - a. Average Variable Cost is increasing.
 - b. Average Variable Cost is decreasing.
6. Which of the following is **not** a requirement for a perfectly competitive industry?
 - a. All consumers have full information on the price charged by each firm.
 - b. Each firm in the industry recognizes that the quantity of output it produces can affect the equilibrium price.
7. The goal of most firms is to maximize their total revenue by setting the price of their good at that price where the price elasticity of demand for the good is equal to 1.
 - a. True
 - b. False
8. Consider the typical linear downward sloping domestic demand curve and linear upward sloping domestic supply curve for a certain good. Is the following statement true or false for this good? "The total surplus for this market when it opens to world trade without any government invention can not be smaller than the total surplus for this market when it is closed to world trade."
 - a. True
 - b. False

9. The inflation rate for 2007 is reported as 4.5% while your nominal wage increases by 2.25% during the same period. Which of the following statements is true?
- Your purchasing power has increased.
 - Your purchasing power has decreased.
10. If the price elasticity of demand is constant everywhere along the demand curve, then the slope of the demand curve is constant.
- True
 - False
11. Which of the following products is most likely **not included** in the basket of goods used to calculate CPI?
- John Deere Industrial Tractor
 - Pontiac G8 Sedan
12. Suppose a consumer buys two goods: sugar and paprika. The consumer has a typical indifference curve for the two products. Assume paprika is an inferior good, but sugar is a normal good. This implies _____.
- Sugar and paprika are substitutes
 - Sugar and paprika are complements

Multiple Choice Section

Use the following diagram to answer the next question:



13. According to the figure, it is possible to say that:
- The demand for truffles is perfectly inelastic.
 - The demand for potatoes is perfectly elastic.
 - The price of truffles is changing.
 - The demand for potatoes is perfectly inelastic.

14. A profit-maximizing firm will
- Exit the industry in the long run if the price is above the shut-down price.
 - Exit the industry in the short run if the price is below marginal cost, but above average fixed cost.
 - Exit the industry in the short run if the price is below the break-even price.
 - Exit the industry in the long run if the price is below the break-even price.
15. The CPI in 2006 was 80 and the CPI in 2008 was 120. Terry bought a car in 2006 for \$8,000, and sold the car in 2008 for \$6,000. What is the real price of the car in 2008 using 2006 as the base year?
- \$2,000
 - \$3,000
 - \$4,000
 - \$4,500

Use the following information to answer the next 3 questions:

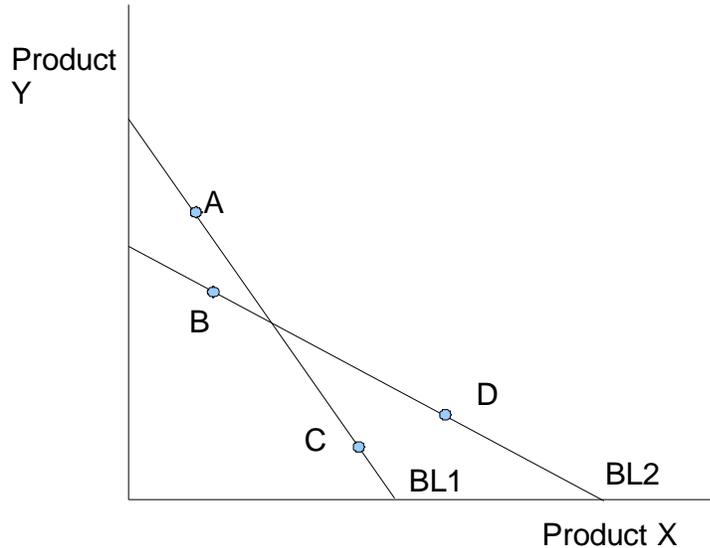
The domestic supply curve of coffee in the United States is $P = 2Q + 6$ when the market is closed to world trade. The domestic demand curve in the United States is $P = 21 - Q$ when the market is closed to world trade. Suppose the world price of coffee is \$8 and the market for coffee in the United States is now opened to world trade.

16. The government implements a quota policy in the market for coffee that allows the license holder to import 3 units of coffee. What is the supply curve for coffee given this quota (assume this is the supply curve for price equal to or greater than \$8)?
- $P=2Q+9$
 - $P=0.5Q$
 - $P=0.5Q-3$
 - $P=2Q$
17. Suppose the government sells the license to import 3 units of coffee. In selling these licenses, the government sets the price so that the government extracts the entire surplus earned by the license holders. How much does the government expect to earn from the sale of the license?
- \$14
 - \$16
 - \$18
 - \$20
18. Assume there is no quota and the government enacts a tariff to ensure domestic producers are able to earn exactly \$4 in producer surplus. How much tariff is necessary for domestic producers to earn this amount of producer surplus?
- \$0.5
 - \$1
 - \$1.5
 - \$2

19. Suppose the electricity industry is a natural monopoly with constant marginal cost. The government wants to protect the consumers given the monopoly power in the electricity industry. The government therefore regulates the market price to be equal to marginal cost in this industry since the government knows that price is always equal to marginal cost in a perfectly competitive industry. What will happen in the long run in the electricity industry?
- The electricity provider will charge its marginal cost as the price and increase production.
 - The electricity provider will charge its marginal cost as the price and decrease production.
 - The electricity provider will charge its marginal cost as the price and keep production the same.
 - The electricity provider will exit out of the industry.
20. Suppose that the CPI in Japan was 200 in 2000 and that the general price level in Japan decreased by 5% from 2000 to 2004. The CPI in Japan in 2004 is therefore equal to
- 100
 - 190
 - 195
 - 205

Use the following diagram to answer the next questions:

The diagram shows various possible consumption bundles under two different budget constraints.



21. Assume the consumer has typical downward sloping indifference curves. Which combinations of the following points can **not** be the optimal points with respect to BL1 and BL2?
- A(with the budget line 1), B(with the budget line 2)
 - A(with the budget line 1), D(with the budget line 2)
 - C(with the budget line 1), B(with the budget line 2)
 - C(with the budget line 1), D(with the budget line 2)
22. What happens to a budget line if simultaneously all prices increase by 10% and income increases by 10%?
- The budget line will remain the same.
 - The budget line will shift out, remaining parallel to the original budget line.
 - The budget line will shift in, remaining parallel to the original budget line.
 - The budget line will pivot about the intercept of the axis for the good that the consumer buys more of.

Use the following table to answer the next 2 questions:

Q	TFC	TVC	TC	AFC	AVC	ATC	MC
0			10	---	---	---	---
1			A				30
2		B				32.5	
3					25		D
4		105		C			
5						33	

23. Solve for A and B respectively.
- 40, 55.
 - 40, 65.
 - 20, 65.
 - 10, 55.
24. Solve for C and D respectively.
- $5/2$, $25/2$.
 - $5/2$, 20.
 - 10, $65/2$.
 - 10, 25.
25. A “slightly bowed inward” set of indifference curves represents the two goods as
- Perfect substitutes.
 - Perfect complements.
 - Very close substitutes.
 - Very close complements.
26. At the equilibrium in the market for bananas, the price elasticity of demand is 0.4 and the price elasticity of supply is 2. A small price increase due to a shift in the supply curve would lead to _____ in total revenue.
- an increase
 - a decrease
 - no change
 - an ambiguous change

Use the following information to answer the next 2 questions:

In the perfectly competitive industry for printer ink, each firm's cost functions are

$$TC = (1/4)q^2 + 25$$

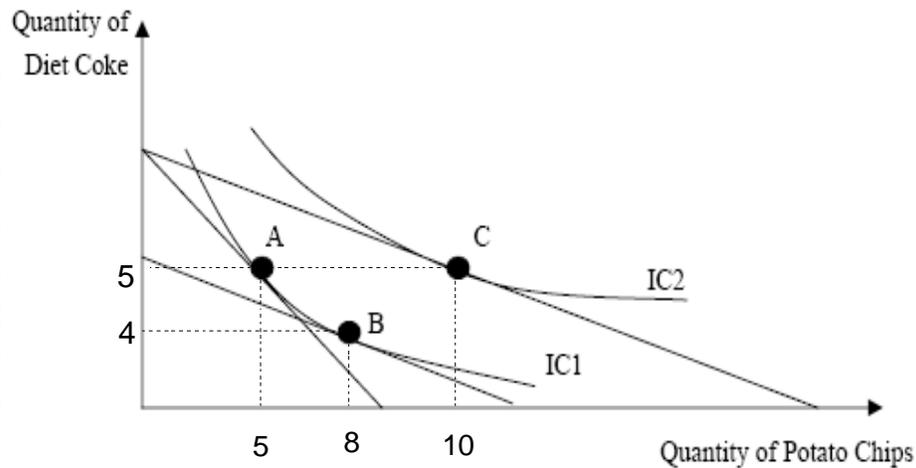
$$MC = q/2$$

Assume all firms are identical in the market for printer ink.

The market demand is $P = 40 - (1/2)Q$

27. Suppose the industry is in short run equilibrium and there are only four firms in the industry competing as perfect competitors. What is the short run equilibrium market price?
- \$4
 - \$6
 - \$8
 - \$10
28. Suppose the industry has entered into long run equilibrium. How many firms will there be in this industry when the industry is in long run equilibrium?
- 4 firms
 - 5 firms
 - 6 firms
 - 7 firms
29. Suppose the price elasticity of demand for car tires is 0.4, while the income elasticity for car tires is 0.5. Furthermore, suppose a synthetic rubber shortage leads to a 20% increase in the price of tires. Holding everything else constant, what must the increase in income be in percentage terms in order for there to be no change in the quantity demanded in the market for car tires?
- Income will need to increase by 8%.
 - Income will need to increase by 12%.
 - Income will need to increase by 16%.
 - No increase in income is necessary.

Use the following diagram to answer the next question:



30. Suppose the consumer has faced the price change depicted in the above graph. How much is the substitution effect from that change (hint: measure the substitution effect in terms of the change in the consumption of the good whose price has changed)?
- 1 unit of diet coke
 - 2 units of potato chips
 - 3 units of potato chips
 - 0 units of diet coke
31. Suppose that every morning Eric buys both soda and coffee. Assume that Eric's indifference curve map consists of normal downward sloping, bowed in toward the origin indifference curves. At his current consumption level, which exhausts all of his income, Eric's marginal utility (MU) from drinking the last can of soda he bought is 25 utils and his marginal utility from drinking the last cup of coffee he bought is 40 utils. The price of a can of soda is \$1, and the price of a cup of coffee is \$2. Assume that Eric is a utility maximizing individual. Eric should
- Not change his consumption levels of soda and coffee.
 - Buy more soda and less coffee.
 - Buy less soda and more coffee.
 - Buy more of both soda and coffee.

Use the following information to answer the next 2 questions:

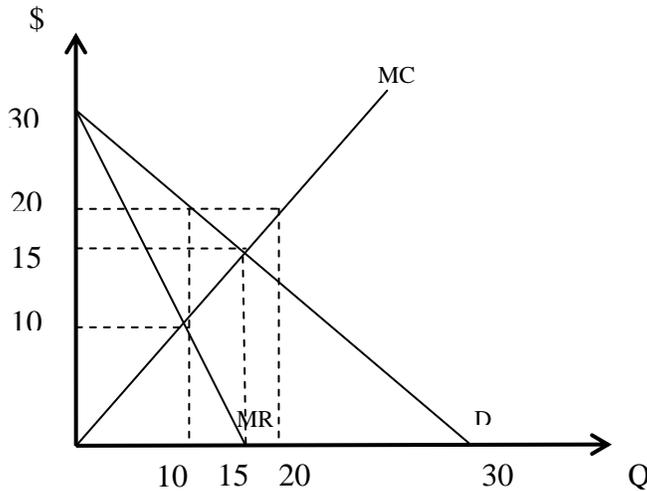
Pierre LaFontaine quits his \$25,000 job as a chef to open his own restaurant. At the end of his first year he gave his tax accountant the following information about his restaurant:

Wages Paid to Employees	\$110,000
Rent on Building	\$5,000
Electricity Bill	\$10,000
Food Purchases	\$100,000
Sales Revenue	\$250,000

32. Pierre's accounting and economic profits are
- Both equal to \$25,000.
 - \$25,000 and zero respectively.
 - \$25,000 and \$22,500 respectively.
 - \$25,000 and -\$25,000 respectively.
33. Now suppose Pierre used \$50,000 of his savings that had been earning 5% interest to purchase equipment for his restaurant. What is his total economic cost of operating the restaurant?
- \$250,000
 - \$275,000
 - \$252,500
 - \$277,500
34. A sandwich shop is profit maximizing in a perfectly competitive market. In the short run, the market price for the product results in the firm earning negative economic profit. However, despite this negative economic profit the sandwich shop can reduce its loss by continuing to operate in the short run. At its current level of production the firm's ATC is \$4.50 and its AVC is \$3.50. Which of the following prices could be the price in this market?
- \$3.00
 - \$3.50
 - \$4.00
 - \$4.50

35. The market for Badger T-Shirts is a perfectly competitive market that is currently in long-run equilibrium. Currently the price of a T-shirt is \$10. Due to the disappointing football season, the demand for Badger T-Shirts decreases sharply. In the short run, we expect the price of a T-shirt to _____ and in the long run, we expect the price of a T-shirt to be _____ assuming everything else is held constant.
- Fall, less than \$10
 - Increase, greater than \$10
 - Fall, equal to \$10
 - Increase, equal to \$10

Use the following graph to answer the next 2 questions:



36. The output choice and price level that maximize this monopolist's profits are:
- $Q=10, P=\$20$
 - $Q=20, P=\$20$
 - $Q=15, P=\$15$
 - $Q=10, P=\$10$
37. For the above monopolist, what is the increase in producer surplus this monopolist earns when compared to this market operating as a perfectly competitive industry?
- \$50
 - \$75
 - \$37.50
 - \$25

Solution:

1. a
2. a
3. b
4. a
5. a
6. b
7. b
8. a
9. b
10. b
11. a
12. a
13. d
14. d
15. c
16. d
17. c
18. d
19. d
20. b
21. c
22. a
23. a
24. b
25. c
26. a
27. c
28. d
29. c
30. c
31. b
32. b
33. c
34. c
35. c
36. a
37. c