Version 1

DO NOT BEGIN WORKING UNTIL THE INSTRUCTOR TELLS YOU TO DO SO.
READ THESE INSTRUCTIONS FIRST.

You have 75 minutes to complete the exam. The exam consists of 30 multiple choice questions.
Each multiple choice question is worth 3.3 points for a total of 99 points.

- We reserve the right to deduct one point for failing to fill out the scantron completely and accurately. If you provide this information accurately you will get the last point: making the exam a 100 point exam. Sign the honor code statement as well.
- Answer all questions on the scantron sheet with a #2 pencil.

NO CELL PHONES, CALCULATORS, OR FORMULA SHEETS ARE ALLOWED.
PICK THE BEST ANSWER FOR EACH QUESTION.

★How to fill in the scantron 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 ID number in the space marked "Identification Number." Fill in the bubbles.
3. Write the number of the discussion section for which you're registered under "Special Codes" spaces ABC, and fill in the bubbles. You can find the discussion numbers below on this page.
4. Write the version number of your exam booklet under "Special Codes" space D, and fill in the bubble. The version number is on the top of this page.

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.

Discussion sections are as follows:

| Gueyon Kim | Wooyoung Kim | Aiday Sikhova | Moheb Zidan | Alexander Clark |
|---|---|---|---|---|
| Fri  8:50   317 | Thur 3:30  301 | Thur 3:30   304 | Fri  8:50   318 | Fri  11:00  309 |
| Fri  9:55   311 | Thur 4:35  307 | Thur 4:35   306 | Fri  1:20   305 | Fri  12:05  315 |
| Fri  12:05  316 | Fri 9:55    312 | Fri 1:20    319 | Fri  2:25   302 | |
| Fri  1:20    314 | Fri 11:00  310 | Fri 2:25    313 | | |

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Honor Code Statement for Exam:

I, _____, agree to neither give help to others on this exam nor receive any help on this exam from others. I understand that the use of a calculator on this exam is an act of academic misconduct and that I am not to have a cellular phone on my person. It is important to me to be a person of integrity and that means that ALL ANSWERS on this exam are my answers. Furthermore, I understand that it is my responsibility to keep my answers covered and that failure to do so may be construed as academic misconduct.

Signed _____

1.    Which of the following is an *incorrect* representation of economic profit?

    a.) TR - TC
    b.) (P - ATC)*Q
    c.) (P - AVC)*Q – AFC
    d.) (P - AVC)*Q – FC

2.    In Xanadu, the market basket, which does not change from year to year, consists of only mushrooms and teapots. Using the following table, find the CPI for 2002 using 2000 as the base year and a 100 point scale.

| | Cost of the market basket | Nominal price of mushrooms | Nominal price of teapots |
|---|---|---|---|
| 2000 | $17 | $1 | $5 |
| 2001 | $20 | $2 | $3 |
| 2002 | $x | $3 | $6 |

a.) $\frac{45}{17} \times 100$

b.) $\frac{20}{17} \times 100$

c.) $\frac{33}{17} \times 100$

d.) $\frac{35}{17} \times 100$

Use the following information for the next <u>two (2)</u> questions.

Francis has an income of $10. In this world, there are only three goods: housing, bread, and steak. Francis has simple tastes. He considers one loaf of bread and one steak to be perfect substitutes. Francis always buys one unit of housing and he spends the rest of his money on bread or steak. Suppose housing costs $5 per unit, bread is $1 per loaf, and one steak costs $2.

3.      Given the above information, what is Francis' optimal bundle of housing, bread, and steak?

        a.) 1 unit of housing, 1.67 loaves of bread, and 1.67 steaks
        b.) 1 unit of housing, 0 loaves of bread, and 2.5 steaks
        c.) 1 unit of housing, 3 loaves of bread, and 1 steak
        d.) 1 unit of housing, 5 loaves of bread, and 0 steaks

4.      Now suppose that Francis' income is tied to inflation so that though the nominal amount may vary, his real inflation-adjusted income will remain constant. Assume the market basket used in calculating the rate of inflation is constant and consists of 1 unit of housing, 1 loaf of bread, and 2 steaks. Suppose prices change so that now housing costs $10 per unit, bread $1 per loaf, and steak costs $4.50. Given his inflation-adjusted income, is Francis better or worse off than he was initially? Why?

        a.) Francis has no change in his utility since his purchasing power has been kept constant.
        b.) Francis is better off because the income adjustment that occurs based upon the cost of this set market basket is greater than the change in the price of Francis' initial preferred bundle.
        c.) Francis is worse off since the market basket used to compute the inflation rate does not match Francis' initial preferred bundle.
        d.) Francis is worse off since the income adjustment, based on the fixed market basket, will not account for the substitution effect between goods.

5.  Examine the graph below. The move from consumption choice A to choice B comes from a _____ in the price of good x. The substitution effect on good x will be _____.
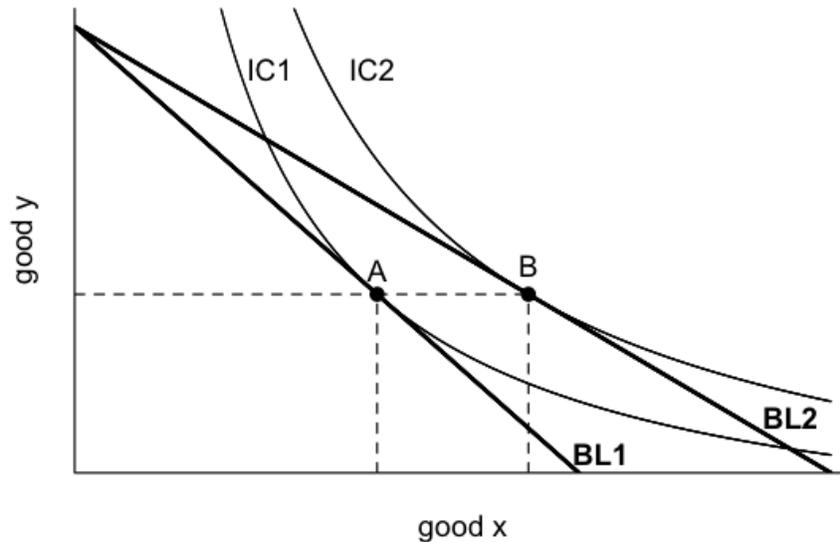


a.) increase, zero
b.) decrease, positive
c.) decrease, negative
d.) decrease, zero

6.  A perfectly competitive firm finds that at its current output, MR > MC and P > ATC. Assume a linear marginal cost equation. Given this information, then this firm should

a.) not change its level of output.
b.) increase its level of output.
c.) reduce its level of output.
d.) shut down entirely.

7.  The arc-elasticity between two points A and B on a demand curve is equal to one. Suppose you know that point A is $(Q, P) = (30, 1)$. Which of the following points must be point B?

a.) $(Q, P) = (3, 10)$
b.) $(Q, P) = (10, 4)$
c.) $(Q, P) = (10, 5)$
d.) $(Q, P) = (29, 2)$

Use the following information for the next _three (3)_ questions.

In a perfectly competitive industry, each firm has the following total and marginal cost curves:

$$TC = 3q^2 + q + 12$$
$$MC = 6q + 1$$

The market demand curve is:

$$P = 17 - Q$$

8.      In the short run, there are two identical firms. What is the equilibrium short run price?

a.) $5
b.) $4
c.) $13
d.) $12

9.      What is the profit of each firm in the short run?

a.) $2
b.) $0
c.) $24
d.) $12

10.     How many firms will serve this perfectly competitive market in the long run?

a.) 4 firms
b.) 2 firms
c.) 3 firms
d.) 1 firm

11. Carefully examine the demand curves shown below. If you were to pick a price and compare the price elasticity of demand across these demand curves at that price, which of them would have the same elasticity? Base your answer upon the point elasticity concept. Refer to each demand curve by the Roman numerals in parentheses.

**Demand for Bread (I)**

**Demand for Milk (II)**

**Demand for Eggs (III)**

**Demand for Milk (IV)**
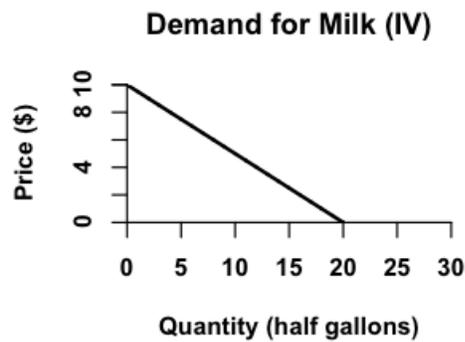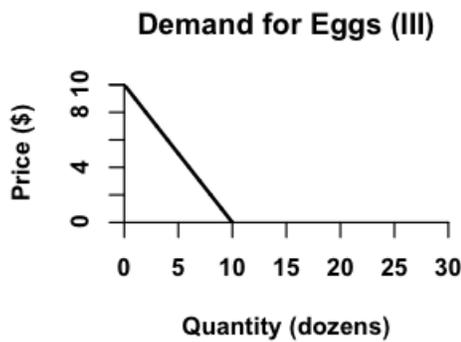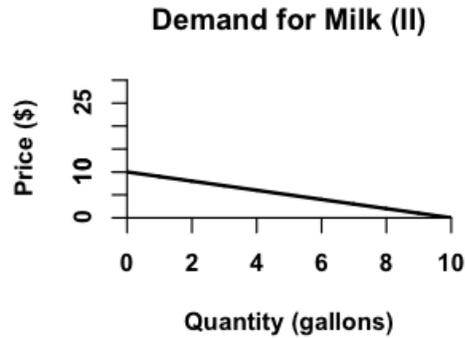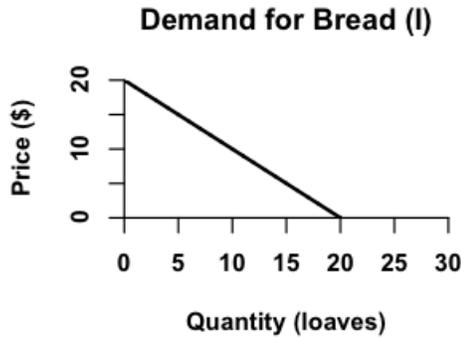
a.) Demand curves II and IV have the same price elasticity of demand at a particular price.

b.) Demand curves I and IV have the same price elasticity of demand at a particular price.

c.) Demand curves II, III, and IV have the same price elasticity of demand at a particular price.

d.) Demand curves II and III have the same price elasticity of demand at a particular price.

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12. For the nation of Never Neverland, the market basket consists of 1 pound of pixy dust, 2 liters of rainbow drops, and 2 tick-tock nuts. One peculiar thing about this nation is that the economy does not experience inflation nor does it experience deflation. Using the information in the table below, figure out the nominal price of pixy dust in 2013. Use 2012 as the base year.

| | Nominal Price of Pixy Dust | Nominal Price of Rainbow Drops | Nominal Price of Tick-tock Nuts |
|---|---|---|---|
| Year 2012 | $3 | $5 | $1 |
| Year 2013 | ? | $2 | $3 |

a.) $5
b.) $2
c.) $3
d.) $15

13. Margo has a monopoly on the market for notebooks. We know the costs she faces and the demand curve equation. P is the price in dollars ($) and Q is the quantity of notebooks.
    Demand: $P = (3/Q) + 1$
    Total Cost: $TC = 1 + Q$
What's the highest profit attainable by Margo? (Hint: on this problem it will be helpful to "think" about alternative approaches before you "plunge in.")

a.) $1
b.) Margo can make infinite profit.
c.) $2
d.) Between $3 and $4

14. Which of these is *not* an assumption of perfect competition?

    a.) Perfect knowledge
    b.) Firms make zero economic profit
    c.) Individual buyers cannot affect the price of the good
    d.) Identical products are produced by the firms in the industry


15. Which of these quotes, along with the provided context, indicates the *most inelastic* supply of labor at the relevant margin? Hint: recall that "inelastic" implies that the quantity is not particularly responsive to changes in price while "elastic" implies that the quantity is responsive to changes in price.

  I.   "I'm not playing basketball ... to make money ... I just want to be happy doing what I love to do." - Allen Iverson (professional basketball player) on looking to join a team/employer.

  II.   "I'm just trying to feed my family." – Terrell Owens (professional football player) insisting on a better wage contract.

  III.   "First of all, the money was too good." – Brett Favre (professional football player) on why he worked another season in the National Football League.

  IV.   "I wanted to be the highest-paid player in the game." – Wayne Gretzky (professional hockey player) on why he left the Edmonton Oilers (a team/employer) for the Los Angeles Kings (a different team/employer).

    a.) I
    b.) II, III, and IV
    c.) III
    d.) II


16. Given the following total cost function, derive the fixed cost.
$$TC = 5/(q+1) + 5 + 5q + q^2$$

    a.) $4
    b.) $5
    c.) $8
    d.) $10

17.  Garrison derives utility from pairs of red shoes (x) and lutefisk (y). The marginal utility of a pair of red shoes is $MU_x = 1/x$. The marginal utility of a unit of lutefisk is $MU_y = 1$. Garrison has an income of $2. Suppose a pair of red shoes costs $1, and a unit of lutefisk costs $1. Which of these bundles should Garrison consume?

a.) 1 pairs of red shoes and 0 units of lutefisk
b.) 0 pairs of red shoes and 2 units of lutefisk
c.) 1 pair of red shoes and 1 unit of lutefisk
d.) 0.5 pairs of red shoes and 1 unit of lutefisk

18.  Many income tax deductions provide tax relief according to a citizen's tax bracket. This kind of tax relief implies that as a person's income rises, the value of the tax deduction increases. Suppose we consider a single tax deduction for good x where this tax deduction effectively makes good x cheaper for those in higher tax brackets (i.e. consumers with more income). Which of these graphs represents this concept best, holding everything else constant?
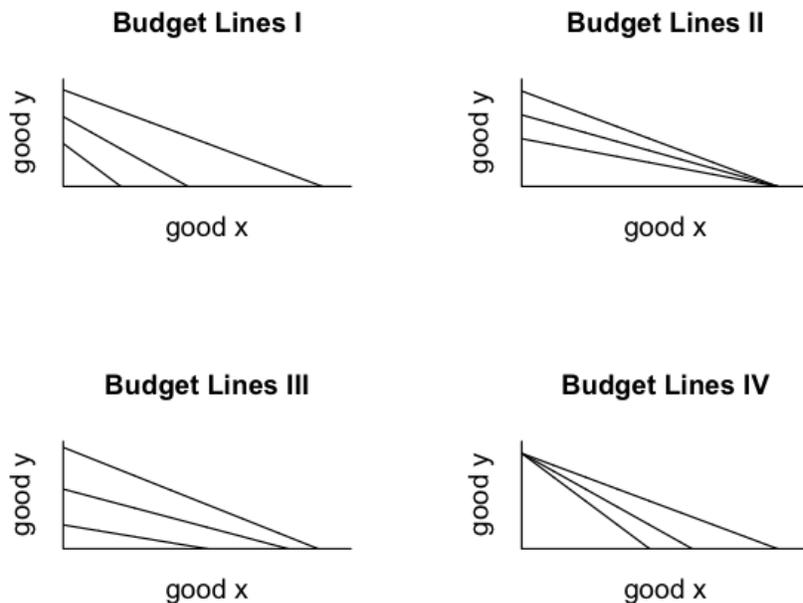


**Budget Lines I**

**Budget Lines II**

**Budget Lines III**

**Budget Lines IV**

a.) Budget Lines IV
b.) Budget Lines III
c.) Budget Lines II
d.) Budget Lines I

Use the following information for the next _four (4)_ questions.

In the small nation of Wonderland, there is a tea market. The domestic demand, supply, and world price are described below. P is the price in dollars and Q is the quantity of tea.
Domestic demand: $P = 10 - Q$
Domestic supply: $P = Q$
World price: $P = 2$

19. What is the value of consumer surplus in Wonderland when the tea market there is closed to trade?

a.) CS = $5
b.) CS = $30
c.) CS = $6.25
d.) CS = $12.50

20. If the market for tea in Wonderland opens to free trade, how many units of tea will be imported?

a.) 2 units
b.) 8 units
c.) 4 units
d.) 6 units

21. Suppose the market for tea in Wonderland is open to trade but that the government of Wonderland simultaneously implements an import quota of 2 units of tea. How many sources of deadweight loss will there be? Describe the source(s) of deadweight loss.

a.) There is one source of deadweight loss: this deadweight loss is due to the tea being under-supplied in Wonderland once the import quota is implemented.
b.) There is one source of deadweight loss: this deadweight loss is due to domestic producers, being more inefficient than non-domestic producers, producing too much tea once the import quota is implemented.
c.) There are two sources of deadweight loss: the deadweight loss is due to the tea being under-supplied in Wonderland once the import quota is implemented and to domestic producers, being more inefficient than non-domestic producers, producing too much tea once the import quota is implemented.
d.) There are two sources of deadweight loss: the deadweight loss comes from consumers buying too little tea and domestic producers losing business because of the implementation of the import quota.

22. Suppose the government changes the import quota to 10 units of imported tea. Which of the following statements is true given this change in the import quota and holding everything else constant?

a.) License holder revenue will increase.
b.) There will be no deadweight loss.
c.) Wonderland will begin to export tea.
d.) Domestic producer surplus will increase.


23. Which of these statements correctly differentiates cardinal and ordinal utility theory?

a.) Cardinal utility gives meaning to the difference in the util value attached to each bundle of goods.
b.) Only cardinal utility can be represented by a utility function.
c.) Cardinal utility does not allow us to rank choices from most to least preferred.
d.) Ordinal utility does not allow us to rank choices from most to least preferred.


24. We usually work with "bowl shaped" indifference curves. Those shown below are just one example. Which of the following statements _does not_ give an accurate interpretation of the <u>curvature</u> of the indifference curve? That is, which of these statements is _not_ related to the slope or the change in slope along an indifference curve?

### IC for Ordinary Goods
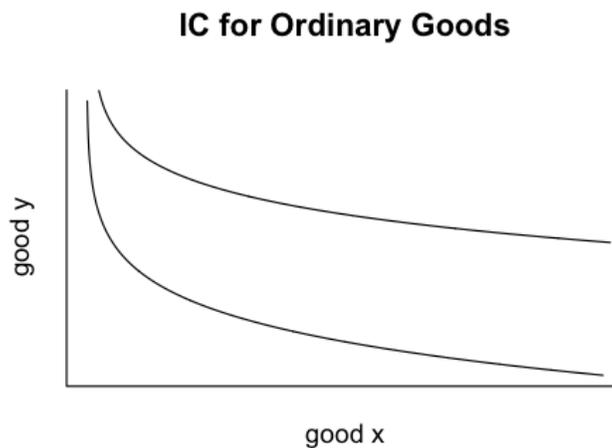


a.) More of a good is always preferred.
b.) If a consumer is indifferent between two bundles, they will prefer the average of the two bundles to either of the original bundles.
c.) Goods have diminishing marginal utility.
d.) The two goods represented in indifference curve maps are always normal goods.

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25. When Lucy operates a lemonade stand by herself she finds that she can produce 100 cups of lemonade per hour. She finds that if she hires her friend Charlie and they both operate the lemonade stand, they will together produce 120 cups of lemonade per hour all else equal. This illustrates

a.) That in the long run, fixed inputs become variable.
b.) The concept of diminishing marginal returns to labor.
c.) The concept of increasing returns to scale in production.
d.) The concept of increasing returns to an input.

26. With an income of $100 per year, Ann demands 1 bus ticket. If her income decreases to $25 per year, and all else remains equal, she will demand 2 bus tickets. Calculate the income elasticity of demand for bus tickets using the standard percentage change formula. Use $100 as the base income.

a.) 1/8
b.) -4/3
c.) -3/4
d.) -1/8

27. The rate of inflation in Gotham City from 1999 to 2000 was 25%. Suppose, moving to 2001, the yearly inflation rate was 15%. Using 2000 as the base year and a scale factor of 100, what was the CPI for these years?

a.) The CPI was 75 in 1999, 100 in 2000, and 120 in 2001.
b.) The CPI was 80 in 1999, 105 in 2000, and 120 in 2001.
c.) The CPI was 80 in 1999, 100 in 2000, and 115 in 2001.
d.) The CPI was 75 in 1999, 100 in 2000, and 115 in 2001.

Use the following information for the next <u>three (3)</u> questions.

The market demand curve for tofu and the marginal cost of production for a firm in this market are given by these equations. P is in dollars ($) and Q is units of tofu. Assume zero fixed costs.

Demand: P = 20 – Q

Marginal cost: MC = 2 + Q

28. Assume this market is a monopoly. What quantity would be chosen by a profit-maximizing monopolist given that fixed costs are zero?

a.) Q = 0 units of tofu
b.) Q = 11 units of tofu
c.) Q = 9 units of tofu
d.) Q = 6 units of tofu

29. At the monopolist's profit maximizing level of production, what will be the difference between the price the monopolist charges for a unit of tofu and the marginal cost of producing this last unit of tofu? Assume that this monopolist charges a single price for its product (i.e., no price discrimination).

a.) P - MC = $0
b.) P - MC = $6
c.) P - MC = $2
d.) P - MC = $8

30. What is the deadweight loss from the monopolization of this market?

a.) $3
b.) $4.50
c.) $9
d.) $6

Version 1 Answers

1. C
2. C
3. D
4. B
5. B
6. B
7. A
8. C
9. B
10. B
11. C
12. A
13. C
14. B
15. A
16. D
17. C
18. D
19. D
20. D
21. C
22. B
23. A
24. D
25. B
26. B
27. C
28. D
29. B
30. C