

Econ 2010 (Morey) Fall 2016
Second Midterm (Version 2)
Nov 5, 2016

Read these instructions carefully

This exam has 55 questions and 16 pages. Make sure you have 55 questions.

The exam has four questions in it about the structure of the course. For each of these questions you answer, you will be marked correct, no matter how you answer. This gives you 4 correct answers out of 55 for free.

When we record your percentage grade on this exam we will divide the number of correct answers by 52 rather than by 55. This will help you.

When answering a true/false question ignore the words “true” and “false” on the bubble sheets. That is, sometimes “true” will be bubble A and sometimes “true” will be bubble B.

Make sure you mark your bubble sheet Version 2

Note that many of the questions on this exam are variations on the questions you have seen on the Aplia quizzes or on the old exams. So, if a question looks familiar it might not be identical to a previous question. Read the questions carefully.

1. All I care about is publishing research papers and going skiing; I like doing both. CU pays me \$100 a week (my income). Skiing costs \$10 a trip, and journals charge \$15 to publish my papers - they always accept them. It takes me 6 hours to do a ski trip and 4 hours to write a paper. I have 40 hours a week to allocate to writing and skiing, and can spend my whole \$100 on these two activities. Which of the following statements is both correct and most informative?
 - A) I might ski 7 times
 - B) I might ski 4 times and write 4 papers.
 - C) I might ski 1 time and write 7 papers
 - D) I might ski 3 times and write 6 papers.

2. Assume a world of only two goods: food and rental housing. Also assume that Rosalyn's preferences never change. Rosalyn lives in Denver and consumes a positive amount of both goods. A recession starts and real estate prices drop, so rents fall. Food prices remain unchanged and, luckily, Rosalyn keeps her job, so her income remains the same. Which of the following statements is correct?
- A) Rosalyn will necessarily consume more housing because its relative price has decreased.
 - B) Rosalyn will definitely not be worse off, but, without more information all we can say about her new consumption bundle, compared to her original bundle, is that she will not consume less of both goods.
 - C) Rosalyn will necessarily consume more food because she will have more money to spend on food because she needs to spend less on housing.
 - D) Rosalyn will definitely not consume more of both goods.
3. (modification) If OPEC wants to increase revenue, which of the following does not always serve their purpose.
- A) Decrease the price because doing so will increase the demand for their product.
 - B) Increase the price if at the current price the price-elasticity of demand is between 0 and -1 (price inelastic).
 - C) Decrease the price if at the current price the price-elasticity of demand is less than -1 (price elastic).
4. (modified) One characteristic of perfect competition is
- A) rivalry in advertising.
 - B) widely recognized brands.
 - C) fierce quality competition.
 - D) the inability of any one firm to influence price.
5. (new question) Assume a world of two commodities. The indifference curves could look like circles?
- A) Correct
 - B) Incorrect

6. The released-email elasticity of the probability of Hillary being elected President is (Choose the answer that is both correct and most informative)
- A) The percentage change in the number of emails released given a 1% increase in the probability that she is elected President. This elasticity is most likely positive.
 - B) The percentage change in the probability of her being elected President given a 1% increase in the number of her emails that are released. This elasticity is most likely negative.
 - C) The percentage change in her being elected President given a 1% increase in the number of her emails that are released. This elasticity is most likely negative.
 - D) The percentage change in the probability of her being elected President given a 1% increase in the number of her emails that are released. This elasticity is most likely positive.
7. A firm's total output times the price at which it sells that output is _____ revenue.
- A) Average
 - B) Net
 - C) total
 - D) marginal
8. Basic consumer theory, as we learned in class, assumes individuals rank goods not bundles.
- A) True
 - B) False
9. You are a child prodigy in mathematics and economics, and you have been known to eat candy. Your parents leave you in a candy shop and give you enough cash for you to purchase however much candy your heart desires. The catch is that you must return all unspent money to your parents and you must eat all the candy you buy within the same day. Additionally, you may only purchase candy with this money. Your parents don't really care how much you spend or how much you eat. Would you necessarily spend all the money you have on candy? Why?
- A) No, because too much candy can potentially be a bad.
 - B) Yes, because the optimal choice is to exhaust my budget constraint if more is better.
 - C) No, because I may prefer choice bundles including other purchases in addition to candy.
 - D) Yes, because my allowance is "use-it-or-lose-it," I might as well spend everything.

10. Consider the statement, "I always prefer good A to good B. For an economist this means: "For every bundle that contains some of Good B, if some, or all, of the B was replaced, unit for unit, with A, the new bundle would be ranked higher."
A) True
B) False
11. (Griffen) Suppose SOW_R and SOW_B represent states of the world for Griffen, i.e. the quality and bundle of things that make up his life in two different worlds. Let SOW_R represent the state of the world for Griffen living in Rio de Janeiro and SOW_B represent his state of the world living in Boulder. Note that SOW is made up of c_i and n_i representing the crime rate and night-life quality. For Griffen night life is a good and crime is a bad. In SOW_R , c_i and n_i are double that of SOW_B . Living in Rio is a lot cheaper than Boulder. What are some reason he would live in Rio rather than Boulder?
A) Both of the other answers are possible reasons
B) He can afford both places but prefers Rio
C) He can't afford to live in Boulder
12. "The marginal production of labor in the production of good x, all expressed in percentage terms," is the same thing as the "labor elasticity of production for good x."
A) True
B) False
13. (modification) Billy the bulldog is broke but has a \$30 coupon for Dogs'R'Us, a store that sells only two goods: puppy chow (\$5 per bag) and chew toys that look like economics professors (\$3 per toy). Billy can only use the coupon once and he must use his organic shopping bag to drag home whatever he buys. The bag can hold an unlimited number of chew toys, but at most three bags of chow. Billy will starve unless he buys at least one bag of chow. Which of the following bundles is in his choice set?
A) 2 bag of chow; 6 chew toys.
B) 0 bags of chow; 8 chew toys
C) 4 bags of chow; 2 chew toys
D) 3 bags of chow; 6 chew toys

14. (new question) Imagine a world of two commodities: x and y. You are standing at the point where $x=y=0$ looking at Wanda's utility function. You are standing on the edge of a hole in the ground, but as you look out past the bottom of the hole utility rises as far as you can see. Which of the following scenarios is both correct and most likely?
- A) For Wanda neither x nor y are bads.
 - B) For Wanda neither x nor y are goods
 - C) For Wanda increasing x (or y) initially makes her better off, but once a certain amount of each is consumed, more of either makes her worse off.
 - D) For Wanda increasing x (or y) initially makes her worse off, but once a certain amount of each is consumed, more of either makes her better off.
15. A fixed input is one:
- A) whose quantity cannot be changed in the short run.
 - B) that exists in nature and there is only so much of it.
 - C) that can never produce more or less in any period.
 - D) that can be used for one thing only.
16. (Viviana) Which of the following is not an assumption of perfect competition:
- A) A homogeneous good
 - B) Few firms
 - C) Price takers
 - D) Free entry and exit
17. (New questions) My math background coming into this class was (If you answer you will get full credit on it not matter how you answer it.)
- A) inadequate
 - B) Adequate
 - C) more than adequate.
18. (modification) Given Joe's demand function for milk, $Q^d = 40 - 2P$, for prices less than \$19, Joe is, in elasticity terms, always more responsive to a \$1 price increase the higher the starting price. (Make sure to compare this Joe question to the other Joe question on the exam)
- A) True
 - B) False

19. (new question) The marginal rate of substitution of x for y at a given amount of x and y, MRS_{xy} , is the negative of the slope of the indifference curve for x and y at that point (y on the vertical axis). Assume that x and y are both bads.
- A) MRS_{xy} is a positive number
 - B) MRS_{xy} is a negative number
20. (Griffen question) Suppose my utility function is $u = c^2 + n^{1/2}$, where c is the amount of chocolate I consume and n is the amount of chicken nuggets I consume. Are these two commodities goods or bads?
- A) c = good, n = bad
 - B) c = bad, n = bad
 - C) c = bad, n = good
 - D) c = good, n = good
21. (Griffen question) Imagine two goods are perfect substitutes, i.e. the MRS for the goods is constant and negative. What would their indifference curves look like?
- A) A u-shaped, convex curve.
 - B) Negatively-sloped, straight lines.
 - C) Two lines that connect and meet at a corner.
 - D) Any of the above.
22. Assume a world of only two goods: hamburgers and hot dogs. At Mabel's current consumption levels, the maximum amount of hot dogs she would be willing to give up in order to obtain one more hamburger is her
- A) Marginal rate of substitution of hamburgers for hot dogs
 - B) Marginal rate of substitution of hot dogs for hamburgers
23. Which of the following definitions best describes the substitution effect?
- A) The fact that when a price changes the individual makes substitutions
 - B) The change in an individual's demand for a good due to the relative price of that good changing, holding utility constant.
 - C) The change in an individual's demand for a good due to the change in real income caused by the change in the price of that good.
 - D) The change in an individual's demand for a good due to the change in the price of that good.

24. (new question) To maximize his after-tax profits from his real estate and gambling investments The Donald wants to minimize his tax liability for ever level of profits these investments earn. (In answering the question assume his tax accountants and tax lawyers work for free.)
- A) True
 - B) False
25. (modification) If the demand for a good is perfectly/completely price inelastic (choose the alternative that is both correct and most informative):
- A) The good likely has few substitutes
 - B) At every price the same amount is demanded and the demand curve is a vertical line (\$ on the vertical axis)
 - C) At every price the same amount is demanded.
 - D) At every price the same amount is demanded and the demand curve is a horizontal line (\$ on the vertical axis).
26. If all prices change by the same proportion (all increase or decrease by the same percent), income remaining constant, there will be an "income effect" but no "substitution effect."
- A) True
 - B) False
27. (modification) Assume Jim is a stalwart Republican; he works a steady job, has a wife and two kids, and lives in the suburbs. He hates Obamacare. Given this, for Jim, every state-of-the-world without Obamacare is ranked higher than every state-of-the-world with Obamacare. (Choose that answer that is both correct and most informative.)
- A) Definitely true
 - B) Definitely false
 - C) Possible, but highly unlikely.
28. (New question) Some of you miss a lot of the econ 2010 lectures. If you are **not** in that category answer "I am not in that category" For those of you who miss a lot of my lectures, please choose the answer that **best** explains why. (If you answer this question you will get full credit, not matter how you answer it).
- A) I do not need to attend lectures because all of the materials I need are online.
 - B) I am **not** in that category; I do not miss a lot of classes.
 - C) It is something special about this class--I don't like the topic, microeconomics
 - D) It is nothing special about this class, I miss a lot of all my classes.
 - E) It is something special about this class--I don't like the way the material is presented

29. The french-fry consumption elasticity of percent body fat is
(choose the correct answer that is most informative)
- A) The percent change in one's consumption of french fries divided by the percent change in one's body fat
 - B) The percent change in one's body-fat percentage divided by percent change in one's consumption of french fries
 - C) The percent change in one's consumption of french fries divided by the percent change in one's body-fat percentage.
 - D) The percent change in one's body fat divided by the percent change in one's consumption of french fries
30. (Modification) Assuming the model (theory) of consumer behavior taught in class and in the book, and assuming all commodities are goods, reducing an individual's budget set by increasing the price of the other good will always make the individual worse off.
- A) Correct
 - B) Incorrect
31. Economists have found that in the historical price range for gasoline, the price elasticity of demand for gasoline in the short term is _____. However, in the long run people have more time to adjust more to a price change, meaning the long run price-elasticity of demand for gasoline is more _____ than the short-run elasticity.
- A) elastic; inelastic
 - B) inelastic; inelastic
 - C) inelastic; elastic
 - D) elastic; elastic
32. Bicycles and bicycle helmets are most likely
- A) Substitutes
 - B) compliments

33. (new question) Fred's producing snerd edibles, e . Her production function is $e=e(s,m,L)$ where s is bags of snerd, m is the number of snerd presses, and L is hours of labor. Further imagine that $m=1$ so that s and L are the only two variable inputs. Now picture this production function in three dimensions with e on the vertical axis. Imagine first slicing the function along the axis where $L=2$. Then imagine starting again with the whole function and slicing it along the axis with $e=3$. Which of the following two answers correctly, and best, describes the two resulting two-dimensional graphs.
- A) The marginal product of snerds, holding labor at 2 (edibles on the vertical axis and snerds on the horizontal axis): All those combinations of snerds and labor that are just capable of producing 3 edibles (snerds on one axis, labor on the other axis)
 - B) The marginal utility of snerds, holding labor at 2 (edibles on the vertical axis, labor on the horizontal axis): All those combinations of snerds and labor that are just capable of producing 3 units of utility (snerds on one axis, labor on the other axis).
 - C) All those combinations of snerds and labor that are just capable of producing 3 edibles (snerds on one axis, labor on the other axis): The marginal product of snerds, holding labor at 2 (edibles on the vertical axis and snerds on the horizontal axis):
 - D) The marginal product of labor (edibles on the vertical axis, labor on the horizontal axis). The marginal product of snerds (edibles on the vertical axis, snerds on the horizontal axis)

Use the following to answer question 34:

Table: Labor and Output

| Quantity of Labor | Total Output |
|-------------------|--------------|
| 0 | 0 |
| 1 | 12 |
| 2 | 22 |
| 3 | 30 |
| 4 | 36 |
| 5 | 40 |
| 6 | 43 |
| 7 | 44 |

34. (Table: Labor and Output) Look at the table Labor and Output. The marginal product of the fifth worker is:
- A) 8.
 - B) 40.
 - C) 4.
 - D) 3.

35. Given Frank's demand schedule for chocolate bars per week:

| Price(\$) | Quantity Demanded |
|-----------|-------------------|
| 1 | 15 |
| 2 | 12 |
| 3 | 9 |
| 4 | 6 |
| 5 | 3 |

What is Frank's price elasticity of demand when price increases from \$2 to \$4?

- A) -3
- B) -1
- C) $-1/3$
- D) -2

36. (new question) Fred produces snerd edibles, e . Her production function for edibles is $e=e(s,L)$ where s is bags of snerd and L is hours of labor. Is the following a correct and complete description of Fred's cost function for producing snerds? Fred's cost function identifies minimum production cost for every combination of e , w , and p_s , where w is price of one unit of labor and p_s is the price of a bag of snerd.

- A) This description is both correct and complete.
- B) This description is correct but does not completely describe her cost function.
- C) This is an incorrect description of her cost function.

37. (new questions) On the ballot today is a referendum to increase the State tax on cigarettes by \$1.50 a pack. At the current price (before it increases because of the tax), own-price elasticity of demand for cigarettes is elastic. Given all this, if the tax goes into effect, the total amount paid for cigarettes after the tax is imposed will be

- A) smaller
- B) the same
- C) not enough information to tell
- D) Greater

38. Assume a world of only two goods, x and y , and assume x and y are perfect substitutes (the marginal rate of substitution between them is a constant). George has a positive income and no control over the prices of x and y . If the price of good y decreases, George will buy more of good y .

- A) There is not enough information given to determine whether he will buy more of good y .
- B) Definitely true
- C) Definitely false

39. The standard model of consumer behavior assumes that a consumer wants to do the best she can given her constraints. But, economic models of the firm typically do not assume that firms want to do the best they can given their constraints.
- A) True
 - B) False
40. To identify one or more of an individual's indifference curves one must know their utility function because along an indifference curve utility is constant.
- A) True
 - B) False
41. (new questions) Compared to the other introductory courses I have taken so far here at CU, this one is (If you answer the question it will marked as correct.)
- A) of above average difficulty
 - B) of below average difficulty
 - C) about average in terms of difficulty
 - D) Not sure
42. (New question) There are two commodities in the world: beer (a good) and pollution (a bad). Wanda's utility function is $u=4b-3p$, where b is barrels of beer and p is tons of pollution. Wanda is currently drinking 4 barrels of beer and experiencing 1 ton of pollution. What is the maximum amount of beer she would give up to have pollution reduced to zero.
- A) $3/4$ of a barrel of beer
 - B) $4/3$ of a barrel of beer
43. (new question) Fred produces snerd edibles, e . Her production function is $e=e(s, L, p)$ where s is bags of snerd, L is hours of labor, and p is the pollution level in boulder. The higher the pollution level in Boulder the fewer edibles Fred can produce for every given amount of s and L . It is difficult to picture this production function because it has four dimensions. To picture it hold $e=10$. That is you are picturing all those combinations of s , L , and p that are just capable of producing 10 edibles. Picture it with s on one horizontal axis, L on the other horizontal axis, and p on the vertical axis. Which of the following best describes what it looks like.
- A) It looks like a forward-tilting plate or saucer: forward-tilting meaning that the plate or saucer is leaning away from the origin ($s=p=l=0$). Picture a satellite disk pointed to receive a signal from the ground.
 - B) It looks like a backward-tilting plate or saucer: backward-tilting meaning the plate or saucer is leaning towards the origin ($s=l=p=0$). Picture a satellite disk pointed to receive a signal from the sky.

44. (new question) Imagine you were trying to fly your jet coast to coast and came upon a utility function sitting in the middle of Kansas, a utility function for two goods. Could you fly over it?
- A) Not enough information to tell.
 - B) Yes
 - C) No
45. (modification) Imagine that you have the same ranking of bundles that I do. Further assume that we face the same constraints. Do we have the same utility maximizing bundle? Are we necessarily equally happy?
- A) No we don't: No
 - B) Yes we do: No
 - C) No we don't: Yes
 - D) Yes we do: Yes
46. (modification) Given Joe's demand function for milk is, $Q^d = 40 - 2P$, Joe is, in elasticity terms, always more responsive to a \$1 price increase the higher the starting price. (Make sure to compare this question with the other Joe question on the exam.)
- A) True
 - B) False
47. When answering this question, keep in mind that elasticities are expressed as the "x elasticity of y." Some people enroll at C.U. in the hopes that studying at C.U. will improve their education (what do they know). Their hopes will be more realized if
- A) The intelligence elasticity of education is elastic
 - B) The studying elasticity of education is elastic
 - C) The education elasticity of studying is elastic
 - D) The studying elasticity of education is inelastic
48. (new questions) Which of the following best captures what you think should be the math prerequisite for this course. (You will get full credit for answering the question not matter how you answer it.)
- A) The requirement should be at least one basic algebra course.
 - B) No math requirement is needed.
 - C) The requirement should be at least one basic calculus course
 - D) No specific math course should be required but I would tell a student that knowing algebra and calculus will make it an easier course.

49. (modification) Wanda Sue has \$100K to spend on a house, and must spend the whole \$100K. She works in downtown Denver, and does not like commuting: *ceteris paribus*, the longer her commute the worse off she is. But, *ceteris paribus*, she prefers bigger houses to smaller houses. However, houses of equal size cost more the closer they are to downtown. Which of the following statements is both correct and most informative.)
- A) Her wtp for a a house that is 100 square feet bigger is how many more dollars she would be willing to pay to get an additional 100 square feet.
 - B) There is not enough information to answer this question.
 - C) Her wtp (willingness-to-pay) for a house that is 100 square feet bigger is how many more minutes a day she would be willing to commute to get the additional 100 square feet.
50. (modification) Marc is a therapist in Boulder (most people in Boulder are either therapists, seeing a therapist, or both.). Marc is trying to help as many people as he can, but he also prefers more income to less income. The more he charges per hour, the fewer patients he will have. His wife has said he cannot work more than 60 hours a week: the rest of the time he needs to stay at home and take care of the kids while she goes skiing. Marc also can't make himself turn away any potential patient who is willing to pay his hourly rate. Given that he cannot turn away potential patients who are willing to pay his hourly rate, and given the constraint imposed by his wife, what hourly rate should he charge. (Choose the answer that is both correct and most informative.)
- A) The hourly rate where the rate elasticity of demand for his services is -1.
 - B) The hourly rate at which the slope of the demand function for his services (rate on the vertical axis) is -1.
 - C) The maximum hourly rate at which only sixty hours of his time are filled a week. And, this rate might be on the elastic or inelastic part of the demand function for his services.
 - D) None of the other answers.
51. (new questions) Hilary has \$10 left to send Bill and Chelsea on get-out-the-vote trips. It cost \$1 to send Chelsea on each trip but \$2 a trip for Bill (they need to send a handler with him). The following is the total number of votes Chelsea trips produce as as function of how many trips she takes (10, 16, 20, 22, and 22. For Bill the total votes produced are 19, 29, 34, 39, and 41. If Hilary wants to gets the most votes for her \$10, how many trips should Chelsea and Bill take? How many votes will they produce together?.
- A) Chelsea 4 trips, Bill 3 trips. 56 trips
 - B) Chelsea 2 trips, Bill 4 trips. 55 votes
 - C) Chelsea 4 trips, Bill 3 trips. 160 votes
 - D) Chelsea 2 trips, Bill 4 trips. 147 votes

52. (Kas) Economists assume individuals rank
- A) Bundles
 - B) Individual goods
 - C) Baskets
 - D) Individual bads
53. Given consumer theory as presented in class, if you and I have different preferences and have different budget sets, we necessarily will consume different bundles.
- A) Correct
 - B) Incorrect
54. (new questions) Wanda cares about only two things in life: friends and shooting moose. Currently she averages four friends and one shot-moose per year. Wanda's MRS of moose in place of (for) friends is 2. The devil makes Wanda the following offer, "Give up one of your four friends and you can average two moose a year. Should Wanda take the deal? Yes or No.
- A) Yes
 - B) No
55. If a competitive firm is producing its level of output at minimum cost, it is necessarily maximizing its profits.
- A) True
 - B) False

Answer Key

1. B
2. B
3. A
4. D
5. A
6. B
7. C
8. B
9. A
10. A
11. A
12. A
13. A
14. D
15. A
16. B
17. *(No Answer Provided)*
18. A
19. A
20. D
21. B
22. A
23. B
24. A
25. B
26. A
27. C
28. *(No Answer Provided)*
29. B
30. B
31. C
32. B
33. A
34. C
35. B
36. A
37. A
38. A
39. B
40. B
41. *(No Answer Provided)*
42. A
43. A
44. C

- 45. B
- 46. B
- 47. B
- 48. *(No Answer Provided)*
- 49. C
- 50. C
- 51. A
- 52. A
- 53. B
- 54. A
- 55. B