

1. 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.
  - A) True
  - B) False
  
2. Assume, consistent with the facts, that construction of housing in Europe involves more recycling of existing building than in the U.S. where most construction is new construction. So, Europeans are necessarily more efficient in the production of housing than we are here in the U.S. because they recycle it more than we do.
  - A) True
  - B) False
  
3. 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 percentage.
  - 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 body fat divided by the percent change in one's consumption of french fries
  - D) The percent change in one's consumption of french fries divided by the percent change in one's body fat

Use the following to answer question 4:

**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

4. (Table: Labor and Output) Look at the table Labor and Output. The marginal product of the fifth worker is:
- A) 8.
  - B) 4.
  - C) 3.
  - D) 40.
5. 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
6. 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 consume more of both goods.
  - C) 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. .
  - D) Rosalyn will necessarily consume more food because she will have more money to spend on food because she needs to spend less on housing.

7. In the Fred lectures, If Fred is being paid \$x a mile to ski, and currently it is costing her more than \$x to crank out her last mile, to increase her revenue she needs to ski more.  
A) True  
B) False
8. Imagine that you have the same ranking of bundles that I do. Further assume that we face the same constraints. So, we have the same utility maximizing bundle. Given this, are we necessarily equally happy?  
A) yes  
B) no
9. Wanda Sue works in downtown Denver, and does not like commuting: *ceteris paribus*, the longer her commute the worse off she is. But, she prefers to live in a big house: *ceteris paribus*, the bigger the better. Her wtp for a house that is a 100 square feet bigger is how many more minutes a day she would be willing to commute to get the additional 100 square feet. Given this wtp, she definitely will not live in downtown Denver.  
A) True  
B) False
10. Define, for the purposes of this question, "conservatives" as people who want less government intervention in the economy and "liberals" as people who want more intervention. Is the following statement a fair characterization of a difference between liberals and conservatives with respect to the market economy? "Liberals believe market failures are more significant and pervasive than do conservatives."  
A) True  
B) False
11. A competitive firm is maximizing its profits at the output level where (choose the answer that is both correct and most informative)  
A) Price equals marginal cost  
B) Total revenue minus total cost takes its largest value, a value that could be positive, negative, or even zero.  
C) The firm is doing the best it can given its constraints.  
D) Total revenue minus total cost takes its largest value.
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. 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 1 time and write 7 papers
  - B) I might ski 4 times and write 4 papers.
  - C) I might ski 3 times and write 6 papers.
  - D) I might ski 7 times

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

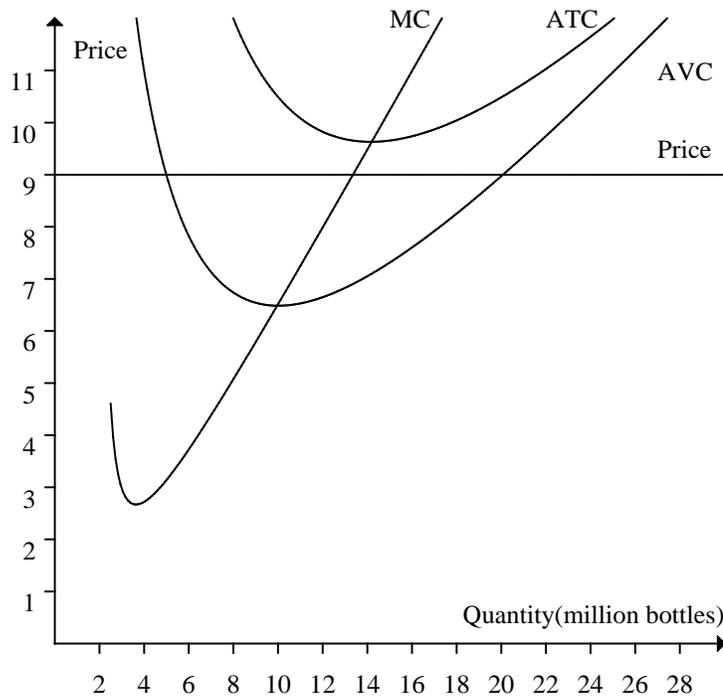
Price(\$)	Quantity Demanded
1	15
2	12
3	9
4	6
5	3

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

- A) -2
  - B) -1/3
  - C) -1
  - D) -3
15. 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) Keep the price unchanged if at the current price, the elasticity is -1 (unitary elastic).
  - C) Increase the price if at the current price the price-elasticity of demand is between 0 and -1 (price inelastic).
  - D) Decrease the price if at the current price the price-elasticity of demand is less than -1 (price elastic).
16. If a competitive firm is maximizing its profits, it is necessarily producing its chosen level of output at minimum cost.
- A) True
  - B) False

17. You have read a lot about how the marginal product of a variable input will eventually decline, the "law of diminishing marginal productivity. Now consider the case where the marginal productivity of the variable input, labor, is increasing in the current range. Which of the following options is correct and best explains an increasing marginal productivity?
- A) When there are only a few workers, each worker has to do everything.
  - B) When only a small amount of labor is employed, adding an additional worker makes all of the workers more productive.
  - C) The marginal product of labor always initially increases.
  - D) At the current level of labor, as more units of labor are added, there is more opportunity for each unit of labor to specialize in that aspect of production in which they have a comparative advantage.
18. So, you live in the socialist state of Sweden where everyone consumes the same bundle of goods, so it is impossible for you to increase or decrease your consumption of goods. You also have HIV -- you should not have taken that sex trip to Thailand. The good news is that there is medicine that will eliminate all of your symptoms and extend your life. You need to take it every day and the dose is 10 drops a day. If you take more the medicine is ineffective and if you take less it is ineffective. The medicine has no taste and no side effects. You choose to take the medicine in the proper dose. The government pays for it: there is socialized medicine. Are all of the following statements correct?
- I. Given that you live in Sweden, your utility can only take two levels.
  - II. The medicine, in its proper dose, is a good.
  - III. Thinking about your preferences and not your constraints, with goods on the vertical axis and medicine dosage on the horizontal axis, your indifference curves are horizontal lines except at bundles that include medicine in doses of 10 drops.
  - IV. Thinking about your preferences and not your constraints, with goods on the vertical axis and medicine dosage on the horizontal axis, your indifference curves are horizontal lines except at bundles that include medicine in doses of 10 drops. In addition, when a bundle includes medicine in a dose of 10 drops, that bundle is separated from all of the other bundles it is indifferent with; that is, there is a gap between it and the other bundles it is indifferent with.
- A) Yes
  - B) No

19. An international corporation that produces alcoholic beverages, Happy Hour Inc., has already invested in the capital to produce a new brand of mass-market wine, Château d'Eugène. The firm's cost structure is illustrated below. Due to heavy competition with other producers of similar wines, the price of Château d'Eugène is set by the market at \$9.00/bottle.



Analysts have forecasted that the mass-market wine market will continue to be highly competitive in the long run. *Ceteris paribus*, which of the following scenarios is the most likely to occur, given the information above?

- A) Happy Hour Inc. will turn a profit on Château d'Eugène and expand the brand in the future.
- B) Happy Hour Inc. will break even on Château d'Eugène, neither turning a profit nor incurring a loss.
- C) Happy Hour Inc. will suffer a loss on Château d'Eugène. However, they will continue to produce, but also discontinue the brand at some point in the future.
- D) Happy Hour Inc. will immediately cease the production of Château d'Eugène.
20. According to the consumer theory we have been learning in class, is it fair to say that, "An individual's choices are constrained by their preferences?"
- A) Yes
- B) No

21. Suppose Justin's Candy Factory currently employs seven workers who produce candy. With these seven workers, the average production of candy is 10 candies per worker. Upon hiring one additional worker, the average production of candy per worker increases to 11 candies. What is the marginal product of labor?
- A) there is not enough information to determine the marginal product of labor
  - B) 18
  - C) ten or less
  - D) 11
22. Basic consumer theory, as we learned in class, assumes that individuals rank goods not bundles.
- A) True
  - B) False
23. 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) Definitely true
  - B) Definitely false
  - C) There is not enough information given to determine whether he will buy more of good y.
24. Assume the firm has no fixed costs. If, at the current level of output, average variable cost is increasing, this implies that, at this output level, average total cost is increasing as well.
- A) True
  - B) False
25. Assuming the model (theory) of consumer behavior taught in class and in the book, and assuming all commodities are goods, increasing an individual's budget set will always make that individual better off.
- A) True
  - B) False

26. After years of saving Esteban achieves his life's dream of opening a gourmet pie bakery. He bakes the pies and sells them for \$25 each -- they are big and tasty pies. Initially, Esteban is the only employee and must do all of the baking. On his own Esteban can bake 20 pies every day. After several months Esteban's business is doing well enough that he is able to hire one more employee. Esteban is very pleased to discover that with himself and the second person, they, together, can bake 42 pies a day. Holding all else constant, what is the marginal product of labor associated with the second person. And, is the marginal product of labor increasing or decreasing? Remember that pies sell for \$25 each.
- A) 550 dollars and increasing
  - B) 22 pies and decreasing
  - C) 550 dollars and decreasing
  - D) 22 pies and increasing
27. If a competitive firm is producing its level of output at minimum cost, it is necessarily maximizing its profits.
- A) True
  - B) False
28. Everyone is rational in the economic sense of the word. Given this, if you and I have the same preferences and face the same constraints, we will both choose the same bundle.
- A) True
  - B) False
29. Billy the bulldog 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 food; 6 chew toys.
  - B) 0 bags of food; 8 chew toys
  - C) 4 bags of food; 2 chew toys
  - D) 3 bags of food; 6 chew toys
30. 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

31. A fixed input is one:
- A) Whose quantity cannot be changed in the short run.
  - B) That can never produce more or less in any period.
  - C) That can be used for one thing only.
  - D) That exists in nature and there is only so much of it.
32. 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
33. 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) Yes, because the optimal choice is to exhaust my budget constraint if more is better.
  - B) Yes, because my allowance is "use-it-or-lose-it," I might as well spend everything.
  - C) No, because I may prefer choice bundles including other purchases in addition to candy.
  - D) No, because too much candy can potentially be a bad.
34. You are in the business of skinning cats. In explanation, they sell for a good price to BBQ joints. It takes one cat with skin to produce one un-skinned cat. In addition, it takes knives (they come in different shapes and sizes, and, *ceteris paribus*, more is better) and labor to skin a cat. Holding constant the number of cats with skin, the current marginal rate of technical substitution of labor for knives in the production of skinned cats is
- A) how many knives one can give up and still produce the same number of skinned cats when labor is increased by one unit
  - B) how much units one can reduce labor and still produce the same number of skinned cats when the number of knives are increased by one
35. 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 will always make the individual worse off.
- A) True
  - B) False

36. The prefix "iso" means "equal."
- A) True
  - B) False
37. 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
38. Assume for the purposes of this question, that people in China have the same preference as people in the U.S. Also assume the same state of technical knowledge in both countries. We observe that the production of meals in China uses relatively less meat than the production of meals in the U.S., so relatively more labor -- the production of Chinese food tends to be labor intensive. Which explanation is most correct and most explanatory?
- A) relative input prices differ between the two countries.
  - B) in China the price of meat relative to the price of labor is higher than it is in the U.S.
  - C) In the U.S. the price meat relative to the price of labor is higher than it is in the China.
  - D) With meat on the vertical axis and labor on the horizontal axis, the isocost lines for meal production are flatter in China because meat is relatively more expensive than it is in the U.S. (labor is relatively cheaper). This causes the cost-minimizing input combination to be more labor intensive (less meat intensive).
39. 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.
- A) True
  - B) False
40. Assuming no technical progress, at every level of output, no point on a shortrun average cost curve can lie below the corresponding point on the longrun average cost curve.
- A) True
  - B) False
41. 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.

42. "Adverse Selection:" Choose the answer that is both correct and most general
- A) Adverse selection is caused by asymmetric information between buyers and sellers (one side knows more than the other). It results in a market failure in that some efficiency increasing trades do not take place because of this informational asymmetry.
  - B) Adverse selection is what causes the free-market for health insurance to be inefficient (fail). The adverse selection results because potential buyers know more about their health status than do the insurance companies. K and W talk about how it leads to an "adverse-selection death spiral" for private insurance.
  - C) The used-car market demonstrates adverse selection because the seller knows more about the quality of the car offered for sale than does the potential buyer, so one ends up with a market for "lemons."
43. George makes candy bars. Inputs are chocolate,  $c$ , and sugar,  $s$ . The constant  $MRTS_{cs} = 3/4$ . George will use both chocolate and sugar to produce his candy bars
- A) Likely
  - B) Unlikely
44. 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 they know). Their hopes will be more realized if
- A) The studying elasticity of education is inelastic
  - B) The education elasticity of studying is elastic
  - C) The studying elasticity of education is elastic
  - D) The intelligence elasticity of education is elastic
45. 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; elastic
  - B) inelastic; elastic
  - C) inelastic; inelastic
  - D) elastic; inelastic

46. Which of the following best explains a single-payer health-insurance system?
- A) The government provides a subsidy for those individuals who are not able to afford private health insurance
  - B) The government provides health insurance for all of its citizens
  - C) The government collects taxes to provide health insurance for those that pay taxes
  - D) All health care is controlled by the government, which pays for all health care expenses and employs all health-care workers
47. 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 best answer.)
- A) The hourly rate where the rate elasticity of demand for his services is -1.
  - B) None of the other answers.
  - C) The hourly rate at which the slope of the demand function for his services (rate on the vertical axis) is -1.
  - D) 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.
48. Let's say you want to know how responsive Fred's miles skied are to a change in the number of hours she skis (her labor). From the following list which is the best measure.
- A) How much she needs to increase her time skied (labor) in percentage terms to increase her miles skied by 1%.
  - B) How much more time she needs to ski one more mile.
  - C) Her marginal product of labor in the production of ski miles
  - D) Her labor elasticity of miles skied
49. 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.

50. Price is on the vertical axis and quantity demanded is on the horizontal axis. There is a point on this demand curve where the price-elasticity of demand is -1. Given all this, all of the following statements are correct except
- A) On the part of the demand curve to the left of this point, a price increase will decrease revenue from the sale of the product.
  - B) The slope of the demand curve is a constant, but the price elasticity of demand varies.
  - C) The slope of the demand curve varies, but the price elasticity of demand remains a constant.
  - D) On the part of the demand curve to the right of this point, the price-elasticity of demand is inelastic.
  - E) On the part of the demand curve to the left of this point, the price-elasticity of demand is elastic.
51. The demand for a good is perfectly price inelastic if (choose the alternative that is both correct and most informative):
- A) At every price the same amount is demanded.
  - B) It is necessarily an essential good.
  - C) It has few substitutes.
  - D) It has many substitutes
52. Which statement best describes how the competitive firm chooses the input combination it will use to produce, in the long run, its chosen level of output.
- A) It is determined by the price it can sell its output.
  - B) It is determined by the state of technical knowledge for producing its output and the constraints imposed on the firm by the input markets.
  - C) It is determined by the isoquant map
  - D) It is determined by the input prices

## Answer Key

1. A
2. B
3. B
4. B
5. A
6. C
7. A
8. B
9. B
10. A
11. B
12. A
13. B
14. C
15. A
16. A
17. D
18. A
19. C
20. A
21. B
22. B
23. C
24. A
25. B
26. D
27. B
28. A
29. A
30. B
31. A
32. A
33. D
34. A
35. B
36. A
37. B
38. D
39. B
40. A
41. C
42. A
43. B
44. C

- 45. B
- 46. B
- 47. D
- 48. D
- 49. B
- 50. C
- 51. A
- 52. B