

Final Econ 2010 (Morey), Fall 2012, version 1 with some comments.

There are many true/false questions, sometimes true is bubble A and sometimes true is bubble B; so pay no attention to the “T” and “F” on the bubble sheet.

Many of the questions are similar to one another.

Many questions from old exams appear. Sometimes “word for word” in which case the answer is the same as it was before. Sometimes the words are altered in which the answers might have changed.

Before starting the exam I would read through the whole thing, noting which questions appear very similar.

Another reason for reading through the whole exam is that sometimes the information in one question will help you to answer another question.

The exam has 104 questions, so make sure you have all the pages.

Have a good holiday, once your exams are over.

There were not many questions where 60% or more got the question wrong. Questions 5 and 71 were the ones the most people got wrong. That there were only a few questions that most people got wrong suggests an appropriate level of difficulty, question by question.

1. It is impossible for two people to consume the same unit of a good.
 - A) True
 - B) False
2. It is impossible for two people to consume the same unit of a private good.
 - A) True
 - B) False
3. Is the following statement true or false? "George's demand function for Diet Cokes and George's marginal willingness-to-pay function for Diet Coke contain the same information, neither contains more nor less."
 - A) True
 - B) False

4. Consider a utility possibilities frontier. Imagine a society must choose between one specific efficient allocation and one specific inefficient allocation. The society will always choose the efficient allocation.

- A) True
- B) False

This is false. They might not choose an efficient allocation over an inefficient allocation. I was surprised how many people missed this question since it was discussed extensively in class. Consider a society with two people: George and Jorge. Imagine an allocation on the UPF (utility-possibilities frontier) where Jorge has it all (poor George gets no utility). Compare this to a point slightly inside the UPF (so inefficient) with a more equal distribution of utility. If the society had to choose between this inefficient allocation and this efficient allocation, they might reasonably choose the inefficient allocation.

5. Suppose the market demand for TV remotes is given by the equation $Q_d = 50 - .5P$, where P is the price and Q_d represents the number of TV remotes demanded. (The corresponding inverse demand function is $P=100-2Q_d$) If the market price of TV remotes is \$40, then the quantity demanded would equal _____ and total consumer's surplus will be _____.

- A) 20; \$900
- B) 30; \$1800
- C) 30; \$900
- D) 30; \$400

If the price of remotes is \$40, demand will be 30. To calculate total consumer's surplus, use the inverse demand function. At a price of \$40, 30 units are purchased, so what is the area above \$40? At a price of \$100 demand is zero, so we are looking at the area of a right triangle with a height of \$60 (100-4) and a width of 30. \$60 multiplied by 30 is \$1800, and half of that is \$900.

Not the distinction between “total consumer’s surplus” and total WTP for 30 remotes.

6. Imagine Boulder is required by the Federal Government to reduce its toxic emissions by 20%. These emissions come from many different sources. The Boulder City Council achieves this goal by requiring every such facility in Boulder that emits this toxin to reduce their emissions of it by 20%. Which alternative most likely and most fully describes the result?

- A) The requirement is achieved, but not at minimum cost
- B) The requirement is achieved at minimum cost
- C) The requirement is achieved efficiently

7. If both the demand and supply curves for peanut butter (\$) on the vertical axis) shift right
- A) Equilibrium quantity will fall but we cannot say what will happen to equilibrium price
 - B) Equilibrium quantity will rise but we cannot say what will happen to equilibrium price
 - C) Equilibrium price will rise but we cannot say what will happen to equilibrium quantity
 - D) Equilibrium price will fall but we cannot say what will happen to equilibrium quantity
8. An individual's MRS_{xy} is how much he would give up to get another unit of x, and a firm's $MRTS_{lk}$ is how much less capital the firm would need to use, holding output constant, if it increased its use of labor by 1 unit.
- A) True
 - B) False
9. Marc, the Boulder liberal, loves Obamacare even more than he loves his wife and kids. Given this, for Marc, every state-of-the-world without Obamacare is ranked lower than every state-of-the-world with Obamacare. (Choose that answer that is both correct and most informative.)
- A) Possible, but highly unlikely.
 - B) Definitely true
 - C) Definitely false
10. How a competitive firm chooses the input combination to produce its chosen level of output does not depend on the price at which it can sell its output.
- A) True
 - B) False
- True. While how much the firm wants to produce and sell depends on the price it can sell its output, how to produce the profit-maximizing level of output (what input combination to use) does not depend on the price at which the output can sell. One wants to produce the profit-maximizing output level in the minimum cost way and this depends, only, on the state of technical knowledge for producing the output (the production function) and the prices of the inputs.
11. Market failures are things that are inherent to the market that cause the market allocation to be inefficient
- A) True
 - B) False

12. Which of the following is the best definition of an economic system?
- A) Supply and demand
 - B) The market which determines what will be produced and how it will be distributed
 - C) The process a society uses to determine what will be produced and how it will be distributed
 - D) The family
13. If all prices change by the same proportion (all increase or decrease by the same percent), income remaining constant, there will be both an "substitution effect" and an "income effect."
- A) No
 - B) Yes
14. Why was John replaced by barb wire? (Choose the alternative that is both correct and most informative.)
- A) With John replaced by barb wire, Thelma is free to start dating again.
 - B) Thelma's love for John waned.
 - C) The opportunity cost to Thelma of enforcing her property rights are lower with barb wire, partially because her love for John waned.
15. 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 hot dogs for hamburgers
 - B) Marginal rate of substitution of hamburgers for hot dogs
- A lot of people have trouble remembering which way it goes. The answer is B: B is how many hot dogs she would give up to get another burger.
16. Put simply, the free-rider problem is that a market economy will likely produce an inefficient amount of public goods (not enough units) because, given that no one can be excluded from consuming the amount produced, consumers have an incentive not to buy the good, hoping that someone else will pay for its production.
- A) True
 - B) False

17. The market for tattoos in the U.S. is completely unregulated. This is because there are no external costs associated with producing tattoos and no one who lives in the U.S. is affected by the tattoos they see on others. However, tourists from other countries tend to hate them: from their perspective too many American and Confederate flags, too many eagles, too many snakes, and too many Buddhist sayings. Which statement is both correct and most informative?
- A) There is not enough information provided to determine whether the efficient number of tattoos are produced.
 - B) The U.S. will produce an efficient amount of tattoos because private and social benefits of tattoos are equal.
 - C) Economists would say that there will be too many tattoos produced because individuals will not correctly take into account how the tattoos will look when they are old and wrinkled.
 - D) The U.S. will produce too many tattoos from an efficiency perspective because the private benefit of having a tattoo is greater than the social benefit.
18. Meat processing plants emit unpleasant odors that waft across the city. Because the production of processed meat provides a negative external effect, it must be the case that at the unregulated, competitive market equilibrium quantity:
- A) all of the other options are correct.
 - B) the market price does not reflect the opportunity cost of producing the processed meat.
 - C) the marginal social cost of producing processed meat exceeds the market price.
 - D) too much processed meat is produced
19. I have a ton of old newspapers in my home office. I like them there; Sally, my wife, does not. The current situation is inefficient because _____? Choose the best possible answer.
- A) Sally's WTP for their removal is less than my WTA their removal.
 - B) Sally's WTP for their removal is more than my WTP to keep them around.
 - C) it is not right for me to clutter up our home with yellowing newspapers.
 - D) Sally's WTP for their removal is more than my WTA their removal.
20. Perfect competition is characterized by:
- A) the inability of any one firm to influence price.
 - B) rivalry in advertising.
 - C) widely recognized brands.
 - D) fierce quality competition.

21. Which of the following statements is true?
- A) Individuals tend to underestimate the amount of a public good that they desire.
 - B) It is straightforward to estimate the marginal social benefits of public goods.
 - C) It is difficult for governments to get an accurate estimate of the marginal social benefits of public goods, because individuals have an incentive to distort the truth about their willingness to pay.
 - D) It is possible to observe how much people are willing-to-pay for an additional unit of a public good.
22. Consider a world with only two commodities: beer and bibles. For Wilma, bibles are a good but for Wilma beer starts off as a good but eventually turns into a bad. Consider Wilma's indifference curves with beer on the horizontal axis. Which statement is both correct and most informative.
- A) Her indifference curves are shaped like an inverted U (first the slope is positive but then switches to negative)
 - B) Her indifference curves are U-shaped (first the slope is negative but then switches to positive)
 - C) Her indifference curves are all upward sloping
 - D) Her indifference curves are all downward sloping.

With beer on the horizontal axis and bibles (a good) on the vertical axis, going straight up increases utility (moves Wilma to a higher indifference curve). Since beer goes from a good to a bad, at low levels of beer, moving straight right (holding bibles constant and increasing beer) increases utility, but at high level of beer moving straight right decreases utility. So, at low levels of beer, both bibles and beer are goods, implying the normal downward-sloped shape to indifference curves in this region. But, as the amount of beer in the bundle increases, bibles remain a good but beer becomes a bad. In this region, the indifference curves must slope upward (to offset the benefits of more bibles, one must drink more of the bad). So, Wilma's indifference curves are U-shaped.

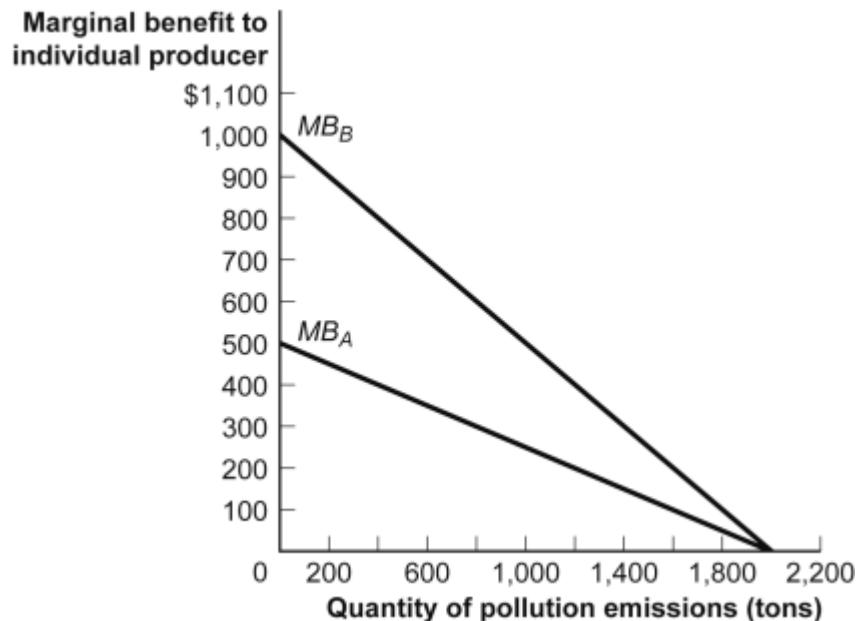
23. An externality is the actions of one or more economic agents directly affecting, not indirectly through market prices, one or more other economic agents.
- A) True
 - B) False

24. Imagine the U.N. requires that total carbon dioxide emissions by China and the U.S. be reduced by 100 units, a small percentage of each country's current carbon dioxide emissions. Imagine that in the 100 unit range, the marginal cost of reducing carbon emission is always less in China than in the U.S. This is likely to be the case because China tends to produce heat and energy using more carbon intensely than does the U.S. Given all this, which of the following statements is both most likely and most informative.
- A) Reducing carbon dioxide emission by 100 units in China (zero units in the U.S.) will cost less in terms of the world's scarce resources because, in the relevant range, the marginal cost of abatement is always lower in China.
 - B) Efficiency requires that the 100 unit reduction be achieved by reducing emissions by 100 units in China and zero units in the U.S because labor is abundant in China.
 - C) The cost-effective way to achieve the required reduction is for some of the reduction to occur in the U.S. and for some of it to occur in China.
 - D) The cost-effective way to achieve the required reduction is for the reduction to occur in the U.S. because production is more efficient in the U.S. than in China.
25. Which answer correctly and best describes the link between a theory's definitions and assumptions, and its predictions?
- A) logic
 - B) the process of logical deduction
 - C) the process of logical induction
 - D) mathematics
26. Gasoline, a derivative of oil, is a large part of transportation costs for many producers of goods. If the price of oil falls at the same time that incomes rise for many consumers, one would expect the equilibrium price of many normal goods to _____, while their equilibrium quantities would _____.
- A) rise; fall, rise or stay the same.
 - B) fall, rise, or stay the same; rise
 - C) fall, rise, or stay the same; decrease
 - D) fall; fall, rise, or stay the same
27. True or False? For an individual, the "consumer's surplus" associated with being able to purchase a market good at a specific price, rather than it being unavailable at any price, does not depend on his willingness to pay for that good.
- A) True
 - B) False

28. Because Americans eat a lot of meat, and because meat production uses more resources per calorie produced than other types of food, food production in the U.S. is inefficient.
- A) True
 - B) False
29. Global warming (a warmer planet) is a good example of a public commodity, for some a public bad, for some a public good.
- A) True
 - B) False
30. According to economists, equilibrium in the allocation of resources and distribution of goods exists when:
- A) no individual has an incentive to change his or her behavior.
 - B) an individual would be better off taking a different action.
 - C) output is distributed equitably.
 - D) scarcity is eliminated.

Use the following to answer questions 31-32:

Figure: City with Two Polluters



31. (Figure: City with Two Polluters) If the government wants to limit total pollution to 2,200 tons, it could impose an emissions tax of _____ per unit on both firms.

- A) \$300
- B) \$100
- C) \$400
- D) \$200

The easiest way to answer this question is to ask how much total pollution (emissions) will be produced at each tax. Remember that both firms pollute so total emissions are the sum for the two firms. For example, at \$400, firm A will emit 400 tons and Firm B will emit 1200 tons, for a total of 1600, which is less than 2200. Remember each firm emits pollution up to the point where the tax equals the MB of their polluting (what it would cost them to reduce pollution by another unit). The correct answer is \$300: at \$300, firm A will emit 800 tons and Firm B will emit 1400 tons, for a total of 2200.

32. (Figure: City with Two Polluters) If the government issued licenses to pollute a total of 1,600 tons of emissions, the market price to emit 1 ton of emissions would equal:

- A) \$300.
- B) \$400.
- C) \$200.
- D) \$100.

33. A Pigouvian subsidy is:

- A) designed to encourage activities generating external benefits.
- B) appropriate when the marginal social cost curve and the marginal social benefit curve intersect at an inefficient level.
- C) designed to discourage activities generating externalities.
- D) appropriate when the marginal social cost curve is above the marginal cost of production curve.

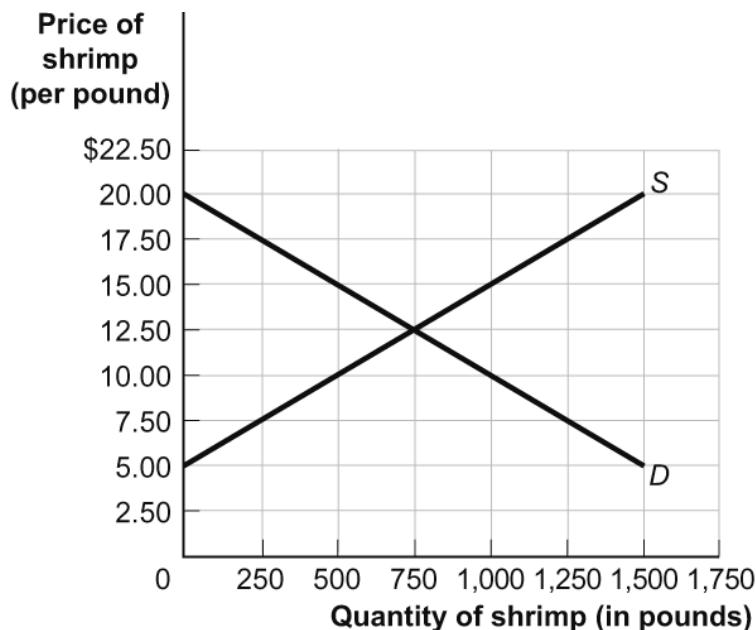
34. Assume a society where there are some resources that are both common property (no economic agent(s) control access) and not scarce. The existence of such resources will cause the competitive market equilibrium to be inefficient.

- A) True
- B) False

35. The government sets a binding price ceiling on rent for NYC apartments, causing inefficiency. This is an example of a market failure.
- A) False
B) True
36. Could a government policy that reduces pollution to its efficient level, be inefficient?
- A) No
B) Yes
37. The efficient level of an external effect could be zero.
- A) True
B) False

Use the following to answer question 38:

Figure: The Shrimp Market



38. (Figure: The Shrimp Market) Look at the figure The Shrimp Market. If the government wants to limit shrimp sales to 500 pounds, it:
- A) must impose a price ceiling of \$10.
B) can impose a price floor of \$15 or a price ceiling of \$10.
C) must impose a price floor of \$15.
D) cannot impose a price ceiling of \$10.

39. In a society that consists of one individual, which statement best describes the allocation of resources that is socially optimal
- A) The individual is doing the best she can given her constraints.
 - B) The individual is doing well
 - C) It is an equilibrium
 - D) The allocation is efficient
40. Assume a society that produces only two goods: opera productions and pounds of BBQ. One knows the production function for producing opera productions and the production function for producing BBQ. Is knowledge of the two production function sufficient to determine society's production-possibility frontier for operas and BBQ?
- A) No
 - B) Yes
41. Assume the price of a tradable emissions permit for a ton of sulfur dioxide is \$150. Which of the following is *incorrect*?
- A) The opportunity cost of emitting an additional ton of sulfur dioxide is less than \$150 for all firms.
 - B) A firm that buys permits has an incentive to limit pollution up to the point at which the marginal benefit of emissions is equal to \$150.
 - C) The opportunity cost of emitting an additional ton of sulfur dioxide is \$150 for all firms.
 - D) A firm that has more permits than it plans to use has an incentive to limit pollution up to the point at which the marginal benefit of emissions is equal to \$150.

The permit price, \$150, is what it costs to legally pollute one unit of pollution. If the price of a permit is \$150, each firm will reduce pollution as long as the cost of reducing an additional unit is less than \$150. (They would rather pay that amount than \$150, which is larger.) So they will keep abating pollution as long as the cost of abating is less than \$150. If the cost of abating is greater than \$150, it is cheaper to pay for a permit. So each firm will operate at the point where the cost of abating one additional unit of pollution is \$150. So answer A is incorrect: it is equal to \$150 for each firm, not less than \$150.

42. Production is efficient when
- A) The only way to increase the production of a good requires that the production of some other good or goods be decreased.
 - B) The only way to make one member of society better off requires that another member be made worse off.

43. An externality occurs when one economic agent's actions directly affect another economic agent(s) (not through market prices) and the producer of the external effect does not have the correct incentive (not compelled) to take the influence of their actions into account.
- A) True
B) False
44. George sneaks up behind Mabel and kisses her, making himself better off and Mabel worse off. If he had to, George would have paid \$75 for the opportunity to sneak up and kiss Mabel. Mabel hates George but would have let him kiss her for \$50. The kiss is
- A) Efficiency decreasing because Mabel is worse off.
B) Not enough information to tell whether the kiss is efficiency increasing or decreasing.
C) Efficiency increasing, even though it makes Mabel worse off.
45. More efficient is always preferred to less efficient.
- A) True
B) False
46. A negative relationship between the quantity demanded and price is called the law of:
- A) increasing returns.
B) market clearing.
C) supply.
D) demand.
47. The french-fry consumption elasticity of 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 divided by the percent change in one's consumption of french fries
C) The percent change in one's body-fat percentage divided by 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

48. A commodity that might be a public commodity in an economy where resources are primarily allocated by a central planner (e.g. Cuba) would not likely be a public commodity in an economy where resources are primarily allocated by free markets.
- A) True
B) False
49. 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
50. George steals your wallet, making himself better off, and you worse off. Before the theft took place the allocation of resources was necessarily efficient.
- A) True
B) False
51. For the purposes of this question assume that society consists of children who believe in Santa Claus. Further assume that Santa delivers, on Christmas Eve, presents to all good children who believe in him. Given all this, Santa, on Christmas Eve, is an ideal example of a public good in that he is capable of visiting every house on Christmas Eve, no matter how many (his time on Christmas Eve is non-congestible).
- A) True
B) False
52. Willy can only produce apples and carrots. Willy's production-possibilities frontier can be represented with the function $C=20-(1/3)A$ where C is the number of carrots he produces and A is the number of apples he produces. For Willy, the opportunity cost of producing a carrot is ___ and the opportunity cost of producing an apple is ___
- A) 1/3 apple, 3 carrots
B) 3 apples, 3 carrots
C) 1 carrot, 2 apples
D) 3 apples, 1/3 carrot

Note quite sure why people have so much trouble with this type of question. First off, the answer to the second part has to be the inverse of the answer to the first part, so B and C cannot be correct. How many carrots does Willy have to give up to produce another apple? $C=20-(1/3)A$ says 1/3, so the answer to the second part is 1/3. If the answer to the second part is 1/3, the answer to the first part must be 3, making the answer D. This question appeared on a previous exam, I just change $C=20-(3)A$ to $C=20-(1/3)A$.

53. There is some efficient amount of drunk driving
- A) True
 - B) False
54. I am a firm that needs to dump some toxic medical waste (dirty needles, etc.). I am going to dump it on a swimming beach, but which one? I want to choose the beach so as to maximize the damages to beach goers (maximize the lost consumer's surplus to beach goers). The firm is owned by a mean guy, me, who does not like to see scantily-clad people. Which of the following is my best choice? In answering, ignore transportation costs.
- A) a polluted/ugly beach located near a good number of pristine beaches
 - B) a polluted/ugly beach near a good number of equally-trashed beaches
 - C) a pristine beach with few good substitutes
 - D) a pristine beach with a lot of good substitutes

This question appeared on a previous exam. On the previous exam, the question said, “minimize the damages to beach goers). Here is says “maximize the damages to beach goes. The answer is dump at a pristine beach (clean, attractive) with no good beaches nearby (not good places to switch to). If the intent was to minimize damages (what the firm would typically want to do) they would go for a beach that is already trashed and that has good substitutes.

To make up new questions, I often just flip things around.

55. 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 decreases to 8 candies. What is the marginal product of labor?
- A) 6
 - B) the marginal product of labor is positive but there is not enough information to determine its exact magnitude.
 - C) -6
 - D) there is not enough information to determine the marginal product of labor
56. Consider a competitive firm in the shorrun with marginal costs that increase as output increases. If this firm is producing a positive amount of output, and if at that amount of output price equals marginal cost, the firm is maximizing it profits.
- A) True
 - B) False

57. 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 profits she needs to ski more.
- A) True
 - B) False
58. Consider the just-ended Presidential election, and the amount of money both sides spent on TV ads. In addition, keep in my that the outcome of the election in terms of the percentage of the vote for each candidate is what the polls predicted months ago. Given all this, up until the day of the election, both sides spending vast amounts on TV ads was _____.
- A) efficient but not an equilibrium
 - B) an efficient equilibrium
 - C) an inefficient equilibrium
 - D) inefficient but not an equilibrium

We talked a lot about inefficient equilibria (divorce lawyers, nuclear-arms race, etc.) The money spend on ads did not affect the outcome of the election (the polls six months before the election had effectively the same margin for Obama has the final result). But Obama had to spend a shit load of money on ads because Romney was doing it, and Romney had to do the same because Obama was doing it. Just like the divorce-lawyer game. Both sides had to keep spending. It was in Obama's (Romney's) interest to spend if Romney (Obama) was spending, and it was in Obama's (Romney's) interest to spend if Romney (Obama) was not spending.

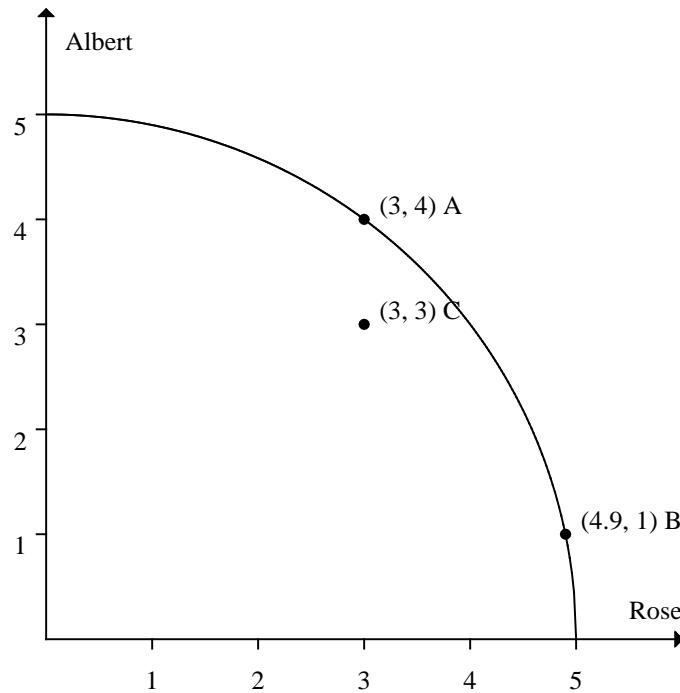
59. Regardless of whether or not they pay for them, people cannot be excluded from receiving the benefits of:
- A) public goods.
 - B) common resources.
 - C) public goods and common-property resources.
 - D) private goods.
60. Imagine a demand curve for husbands with the "price"/cost of acquiring a husband on the vertical axis. Also imagine a supply curve of males willing to get married, such that the more males are paid to get married (the higher the price), the more that will offer themselves up at the altar. The article you read, "Supply, Demand and Marriage," suggests that the increase in premarital sex in the 1960's (the "Sexual Revolution") was driven by shifts in the demand and supply curve for husbands. Specifically that the husband supply curve (how many guys will get married at each "price") shifted to the right.
- A) True
 - B) False

61. An externality occurs when an external effect is being produced at an inefficient level.
- A) True
 - B) False

I was flabbergasted that 80% got this wrong. This is the definition of an externality straight from the notes. ?????

62. George makes candy bars. Inputs are chocolate, c , and sugar, s . The constant $MRTS_{cs} = 3/4$. The price of sugar is \$10 per unit and the price of chocolate is \$10 per unit. George will
- A) use only sugar to produce candy bars
 - B) use only chocolate to produce candy bars
 - C) use both chocolate and sugar to produce candy bars

63. Consider the following utility possibility frontier for a society consisting of only Rose and Albert:



Assume that everything Rose and Albert consume has already been produced (i.e. efficiency in production is not a concern), which of the following is true about points A, B, and C?

- A) Point C is the most efficient because it is the most equitable.
- B) None of the answers.
- C) Point B is the most efficient because in order to make Albert better off, Rose has to be worse off.
- D) Point A is the most efficient because the sum of Rose's and Albert's utility is the greatest.

64. Suppose Alice consumes only wine and cheese. Alice's income increases, the price of wine increases and the price of cheese decreases. Consider Alice's budget line with wine on the vertical axis and cheese on the horizontal axis. What will happen to the slope of Alice's budget line?
- A) It becomes flatter.
 - B) It necessarily remains the same.
 - C) There is not enough information to tell.
 - D) It becomes steeper.

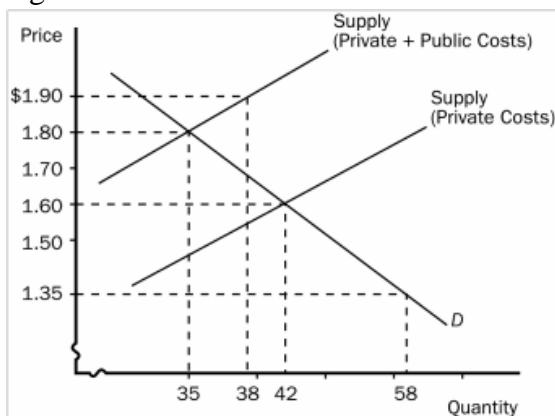
This is basic stuff. The income increase, by itself, shifts Alice's budget line out (to the right) but does not affect its slope. The slope of the budget line depends only on the price of cheese and the price of wine. With cheese on the horizontal axis, a decrease in the price of cheese, holding the price of wine constant, makes her budget line flatter.

With cheese on the horizontal axis, an increase in the price of wine, holding the price of cheese constant, also makes her budget line flatter. So, each price effect is making her budget line flatter. Said another way, the slope of the line is the price of cheese divided by the price of wine and the numerator is decreasing and denominator is increasing. Said another way, the opportunity cost of buying another piece of cheese declines.

65. The efficient number of murders in the U.S. is likely zero.
- A) True
 - B) False
66. Bob's Brewery dumps waste into the Boulder Creek because it is the cheapest way for the brewery to dispose of the waste. The waste negatively impacts the residents in the area because they can no longer use the creek for recreation. Currently, there is no tax or regulation in place to limit Bob's waste disposal. Which of the following is both correct, and most informative?
- A) This is an example of a negative externality.
 - B) This is an example of a negative external effect.
 - C) This is an example of a negative external effect and a negative externality.
 - D) This is an example where the socially optimal level of pollution is occurring.
67. Consider two commodities: skiing at Vail and skiing at Aspen. The Vail-price elasticity of demand for trips to Aspen is likely negative.
- A) True
 - B) False

68. A competitive firm in the shortrun is maximizing its profits at the output level where ____.
(Choose the answer that is both correct and most informative)
- A) price equals marginal cost, even if profits are maximized at an output level of zero.
 - B) the firm is doing the best it can given its constraints.
 - C) total revenue minus total cost takes its largest value, a value that could be positive, negative, or even zero.
 - D) total revenue minus total cost takes its largest value.
69. Consider the probability of being infected with AIDS, and the frequency one has unprotected sex with a stranger. While you would never have unprotected sex with a stranger, you have a friend who told you he is going to increase his frequency of unprotected stranger-sex by 10%, and you are worried he might contract AIDS. Under which of the following four scenarios will you worry the least about him contracting AIDS
- A) The percentage change in the probability of him contracting AIDS divided by the percentage change in the frequency of his unprotected stranger-sex is a number greater than one.
 - B) The percentage change in the probability of him contracting AIDS divided by the percentage change in the frequency of his unprotected stranger-sex is positive number between zero and one.
 - C) The percentage change in the probability of him contracting AIDS divided by the percentage change in the frequency of his unprotected stranger-sex is between zero and negative one.
 - D) The percentage change in the probability of him contracting AIDS divided by the percentage change in the frequency of his unprotected stranger-sex is a number less than negative one.
70. Consider a manna-from-heaven model such that God provides the world, every morning, with a fixed amount of cigars and wine, both goods. There has been a war and only two individuals have survived, Esther and Edith, and both are members of society. Visualize their utility-possibilities frontier and a point C inside that frontier. At point C, it must be the case that some of the cigars and wine are not being consumed.
- A) False
 - B) True

71. Figure: MB and MC of the Tobacco Industry



This graph represents the tobacco industry, in which the firm's optimal choice is different from the socially optimal choice. Which of the following could be a possible method for the market to reach the socially efficient point? The industry is producing tobacco.

- A) Issue 35 tradable emissions permits to produce tobacco.
- B) There is no need for government intervention. The market equilibrium point is already the socially efficient point.
- C) Government imposes a \$0.20 tax on each unit of tobacco produced.
- D) Give each firm a permission to produce only 35 unit of tobacco.

With no regulation 38 units of tobacco will be produced, an inefficient amount from society's perspective because the production of tobacco generates a cost that the industry does not pay. That is, with no regulation the market will fail. So B is incorrect.

The efficient amount of tobacco is 35 units, 35 units by all the firms together (the industry) not by each firm. At an industry output of 35 units of tobacco, the marginal social cost of producing tobacco equals the marginal social benefit (wtp)

An easy way to get the industry to this point is issuing 35 tradable permits where each permit allows its holder to produce a unit of tobacco.

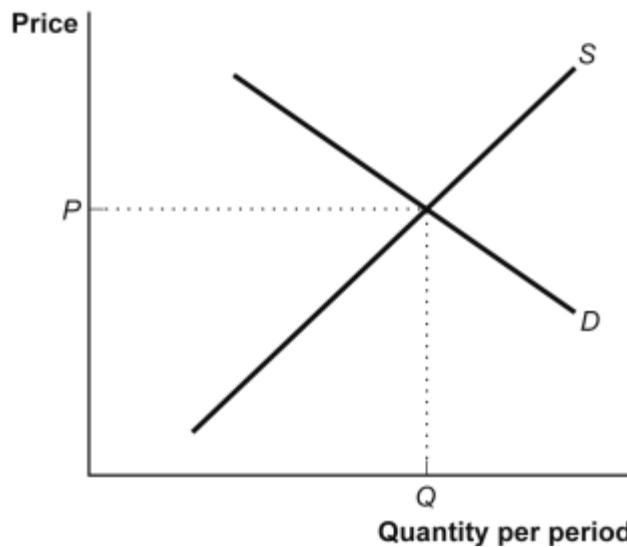
It looks like the vertical distance between the supply curve based on only private costs and the supply curve based on all costs is around 30 cents, not 30 cents, so C is incorrect.

A tax of 30 cents, would have the same effect as the issuing 35 permits.

72. Assuming no other relevant government policies, if the government sets an emissions tax on a noxious gas at a level such that the private cost of emitting that gas (including the tax) is greater than the social cost of emitting that gas: (Choose the answer that the answer that is correct and most informative.)
- A) compared to a tax of zero, emissions will decline and the environment will be cleaner.
 - B) there is not enough information to determine whether the amount of emissions will be efficient.
 - C) the amount of emissions will be inefficient, too high, and while the environment will be cleaner than if there were no tax, it will be too dirty from an efficiency perspective.
 - D) the amount of emissions will be inefficient, too low, and while the environment will be cleaner than if there were no tax, it will be too clean from an efficiency perspective.
73. When the government removes a binding quota:
- A) Price will decrease.
 - B) Price may increase, decrease, or remain the same.
 - C) Price will increase.
 - D) Price will remain the same
74. Assume that cigarette smoking produces a negative external effect (second-hand smoke). The government reacts to this situation by setting a tax on cigarette smoking such that with the tax included the marginal cost of smoking for the smoker is less than the marginal cost to society from his smoking. In this case, the smoker will smoke too little from society's perspective.
- A) True
 - B) False
75. The city of Boulder wants to make marijuana affordable to all, so it sets a ceiling on its price. This price ceiling is set at an amount well below the equilibrium price. This government policy will lead to more marijuana being consumed.
- A) True
 - B) False
76. The fact that children starve in market economies proves that the market can fail.
- A) True
 - B) False

Use the following to answer question 77:

Figure: Model of a Competitive Market



77. (Figure: Model of a Competitive Market) If there are external production costs, a tax imposed on sellers will:
- decrease the equilibrium quantity and necessarily increase efficiency.
 - decrease the equilibrium quantity.
78. Mark has ten apples, but does not like apples. His friends Adam and Sarah like apples, and it costs Mark nothing to give his apples to one or both of them. Initially Adam has ten apples and Sarah has seven. Mark gives Sarah three apples, so Adam and Sarah each have the same number of apples. Mark's gift was _____, and the final allocation of apples is _____.
A) efficiency increasing; efficient
B) efficiency increasing; indeterminate in terms of whether it is efficient or inefficient
C) indeterminate in terms of whether it increased or decreased efficiency; inefficient
D) efficiency increasing; inefficient
79. Consider a manna-from-heaven model such that God provides the world, every morning, with a fixed amount of cigars and wine, both goods. There has been a war and only two individuals have survived, Esther and Edith, and both are members of society. Visualize their utility-possibilities frontier and a point C inside that frontier. At point C,
A) maybe all of the wine and cigars are being consumed
B) definitely all the wine and cigars are not being consumed
C) definitely all of the wine and cigars are being consumed

80. If individuals decide to text while driving without considering the costs imposed on others, the: (Choose the answer that is both correct and most informative.)
- A) the number of texts sent by each driver will be inefficient from his or her perspective, and inefficient from society's perspective.
 - B) number of texts sent by each driver will be efficient from his or her perspective, but not efficient from society's perspective.
 - C) number of texts sent by drivers will be inefficient.

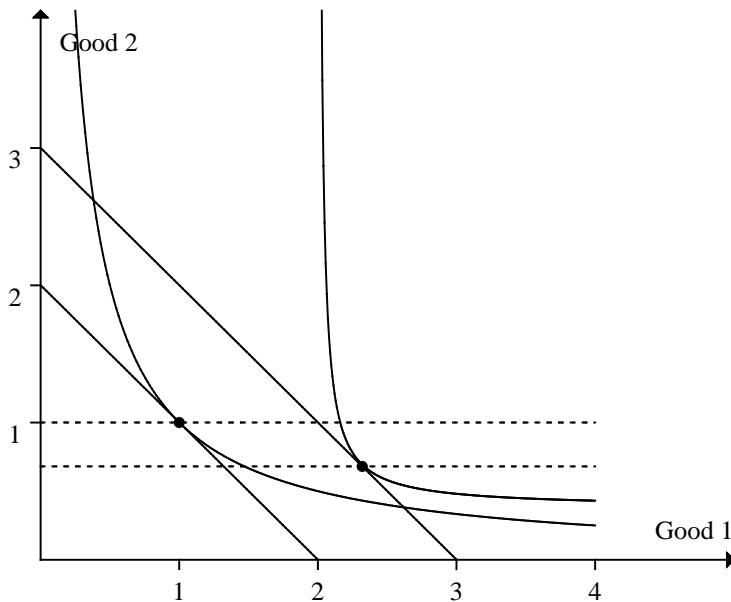
Everyone texts the efficient amount from their own perspective. But since You texting imposes a cost on others (increases the probability that they will kill you with their car), there will be too many texts from society's perspective (an inefficiently high number).

C is correct but not as informative as B.

81. If China grows, increasing the world demand for oil, this will increase the price we pay for gasoline. This is an example of a negative externality because their growth makes us worse off.
- A) True
 - B) False
82. Wilbur is an unattractive guy who has a hard time getting a date: bad breath, greasy hair, and little money. His current probability of getting a date on a Saturday night is 10%. But, Wilbur has a plan: he gets a bunch of cats hoping that having cats will increase his chances of getting a date -- everyone knows that single women love cats. Let "cats" denote how many cats Wilbur has and let "date-probability" denote his probability of getting a date. Given all this, which of the following statements is most conducive to Wilbur achieving his goal.
- A) Wilbur's cat elasticity of date-probability is positive and elastic
 - B) Wilbur's date-probability elasticity of cats is negative and elastic
 - C) Wilbur's cat elasticity of date-probability is positive and inelastic
 - D) Wilbur's date-probability elasticity of cats is positive and elastic
83. The free-rider problem is a direct result of:
- A) full-cost pricing.
 - B) horizontally summed supply curves.
 - C) marginal-cost pricing.
 - D) the inability to exclude nonpayers.

84. For the purposes of this question assume that society consists of children who believe in Santa Claus. Further assume that Santa delivers, on Christmas Eve, presents to all good children who believe in him. He is capable of visiting every house on Christmas Eve, no matter how many (his time on Christmas Eve is non-congestible). Given all this, what type of commodity is Santa on Christmas Eve? Choose the answer that seems most reasonable.
- A) It is not reasonable to describe Santa as either a public commodity or an artificially-scarce commodity.
 - B) Santa on Christmas Eve is a public commodity
 - C) Santa on Christmas Eve is an artificially-scarce commodity
85. Local governments often ban activities that produce negative external effects (no smoking, no skateboarding, no mountain biking, etc.) Is it likely that most of these bans achieve the efficient amount of the activity.
- A) No
 - B) Yes
86. Many competitive firms produce steel and, as a by-product, pollution. They all face the same input prices, the same world price for steel, and the same state of technical knowledge. Input prices reflect the social costs of the resources.
- The government wants to reduce total emissions from steel production by 20%. The government accomplishes this goal by requiring each firm to reduce their pollution by 20%. This goal of the government is achieved at minimum cost to society.
- A) True
 - B) False
87. Thelma's farm, before John arrived, could be reasonably described as a public good because it was open to the public. And, after John arrived, it could be reasonably described as privately-owned resource.
- A) True
 - B) False
88. From the individual's perspective maximizing their utility and behaving efficiently are one and the same.
- A) True
 - B) False

89. Consider the following budget constraints and indifference curves of a consumer. The straight lines represent two budget constraints, and the curved lines represent two indifference curves. Tangency points are denoted by the black dots.



- Which of the following is the most likely to be correct based on the information above?
- Good 2 is an inferior good.
 - Good 2 is a normal good.
 - Good 1 is an inferior good.
90. Goods are redistributed between George and Fred such that after the redistribution Fred is better off and George is worse off. Given this, we know that before the redistribution, the distribution of goods between Fred and George was efficient.
- True
 - False
91. Assuming no technical progress, the firm's shortrun cost of producing an output level must be greater than its longrun cost of producing that output level.
- True
 - False

92. I am a firm that needs to dump my toxic waste in a stream, only one stream. I know that after I do it, I will be sued by the Federal Government and forced to pay damages in the sum of total lost consumer's surplus to everyone who fished at the site before I dumped. Ignoring the varying cost of transporting the toxic waste to different streams, which of the following stream options would be my choice if my intent is to maximize the damages I pay.
- A) a polluted stream with few fish located near a good number of pristine trout streams.
 - B) a pristine stream with a lot of good substitutes because many anglers will get almost as much utility by fishing at one of those close substitutes.
 - C) a polluted stream with few fish, located near a good number equally polluted streams.
 - D) a pristine stream with few good substitutes.
93. Krugman and Wells put goods into four categories based on two characteristics of goods. What do they call goods that are both non-rivalrous (what Edward would call non-congestible) and non-excludable?
- A) Private Goods
 - B) Common Resources
 - C) Artificially Scarce Goods
 - D) Public Goods
94. Whales in the ocean are common-property resources if _____. And, if in addition, they are _____, they will be harvested at an _____ rate.
- A) Both of the other answers are correct.
 - B) access to them is uncontrolled; scarce; inefficient
 - C) access to them is uncontrolled; ; not scarce; efficient
95. If all prices decrease by 10%, and, at the same time income decreases by 5%, there will be an "income effect" but no "substitution effect."
- A) True
 - B) False
96. Former Vice-President Al Gore has suggested that it is possible to produce more goods and have a cleaner environment. Consider a production possibility frontier with goods on the vertical axis and amount pollution is reduced from its no-abatement level on the horizontal axis. Assume that society is currently producing along the frontier, is Al Gore's suggestion true or false?
- A) True
 - B) False

97. Suppose we invent and produce 10 million robots and each of those robots has an absolute advantage over us (humans) in the production of everything. Further assume they are maintenance free but need electricity to operate. Further assume that these 10 million robots can produce, without any help from us, current output levels, plus the electricity they need to run. What they produce, above and beyond the electricity they need to run, is given to us humans, for free. In this world, all, or most, of us humans will end up unemployed?

- A) True
- B) False

98. In the longrun, a competitive firm will operate at an output level where its total costs are minimized.

- A) True
- B) False

99. While one can say they will do something in the future, often such "commitments" are not binding in the sense that when the future arrives one can change their mind and not do what they promised to do. Call this the "inability to reliably commit." Which of the following answers are both correct and most informative.

- A) The inability to reliably commit can be a source of inefficiency in the allocation of resources, a market failure.
- B) The inability to reliably commit can be a source of inefficiency in the allocation of resources, a market failure. For example, I might, now, promise to pay you after I receive the EBay product I want to buy from you, but since you, the seller, cannot be assured that I will pay later, you do not sell me the product, even though I would have paid, making us both better off.
- C) The inability to reliably commit does not cause inefficiency in the allocation of resources because preferences and constraints change over time.
- D) The inability to reliably commit is not a source of inefficiency in the allocation of resources.

A lot of you were not there when this was discussed in class. The answer is B. A is also correct but not as informative.

100. 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.

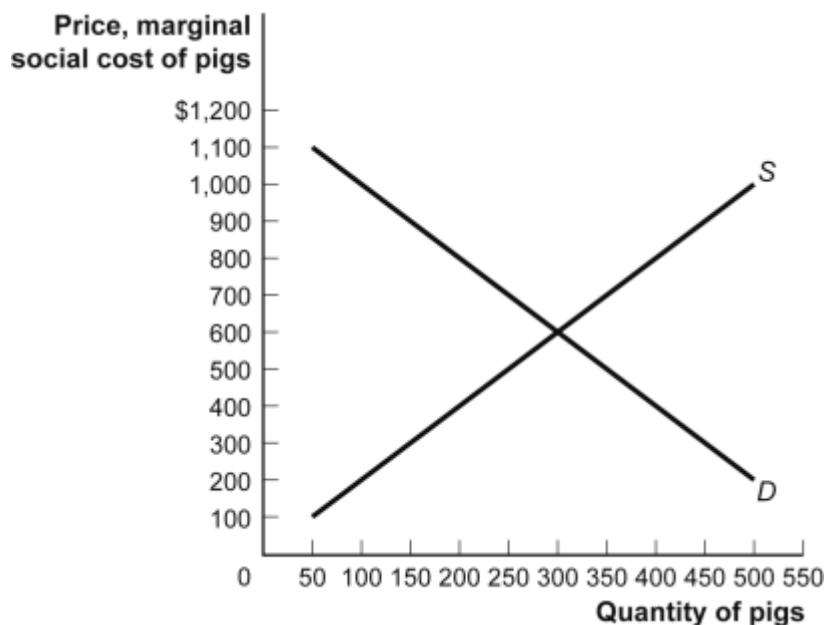
- A) True
- B) False

101. Consider a situation where the potential seller's WTA (willingness-to-accept) the loss of the good is less than the potential buyer's WTP (willingness-to-pay) for the good. This situation can occur at the market equilibrium price.

- A) True
- B) False

Use the following to answer question 102:

Figure: Negative Externalities and Production of Pigs



102. (Figure: Negative Externalities and Production of Pigs) If the marginal external cost of producing a pig is a constant \$200, then the efficient number of pigs from society's perspective is _____ and the efficient price is _____.

- A) 200; \$800
- B) 300; \$800
- C) 150; \$900
- D) 250; \$700

103. Consider a situation where purchases do not occur because the potential seller's WTA (willingness-to-accept) the loss of the good is greater than the potential buyer's WTP (willingness-to-pay) for the good. This situation can occur at the market equilibrium price.

- A) True
- B) False

104. Consider the statement, "Pandas are valuable and should be saved from extinction, even though people do not care one way or the other about pandas." Assuming society consists of only people, this notion of "value" is consistent with how economists define value.

- A) True
- B) False

Answer Key

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

- 45. B
- 46. D
- 47. B
- 48. B
- 49. B
- 50. B
- 51. B
- 52. D
- 53. A
- 54. C
- 55. C
- 56. A
- 57. B
- 58. C
- 59. C
- 60. B
- 61. A
- 62. A
- 63. B
- 64. A
- 65. B
- 66. C
- 67. B
- 68. C
- 69. D
- 70. A
- 71. A
- 72. D
- 73. A
- 74. B
- 75. B
- 76. B
- 77. B
- 78. D
- 79. A
- 80. B
- 81. B
- 82. A
- 83. D
- 84. C
- 85. A
- 86. A
- 87. B
- 88. A
- 89. A
- 90. B

- 91. B
- 92. D
- 93. D
- 94. A
- 95. A
- 96. B
- 97. B
- 98. B
- 99. B
- 100. B
- 101. B
- 102. D
- 103. A
- 104. B