

Principles of Microeconomics  
Professor Edward Morey  
ECON 2010-300  
Final Exam  
December 18, 2008  
Version A

As a University of Colorado at Boulder student, I affirm that I have neither given nor received assistance on this exam.

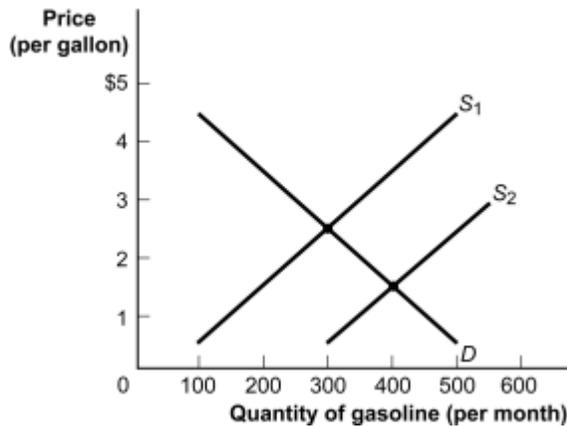
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Questions that still need thought attention are 11 (the new graph in the answer key is not showing u), 21 (the answer is in yellow)

Use the following to answer question 1.

**Figure: Demand and Supply of Gasoline**

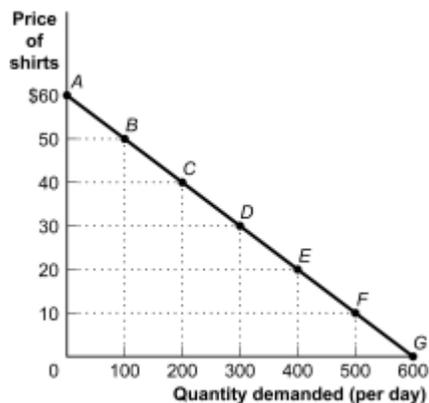


1. (Figure: Demand and Supply of Gasoline) The supply curve shifts from  $S_1$  to  $S_2$ . Which statement is most correct?
- A) at the old equilibrium price of \$2.50, there will be pressure for the price to fall.
  - B) the new price will be \$2.00.
  - C) the new quantity will be 300.
  - D) all of the above are true.

A: A) is correct, B and C are not

Use the following to answer question 2.

**Figure: Aggregate Demand for Shirts**



2. (Figure: Demand for Shirts) The price elasticity of demand for the segment  $BC$  using the midpoint method is:
- A) greater than 3.33 (absolute value).
  - B) 3.33.
  - C) 3.
  - D) 0.33.

C: the price elasticity of demand = (change in demand/average demand)/(change in price/average price) =  $(100/150) / (10/45) = 45/15 = 3$

The answer from my point of view is C.

The KW says, the price elasticity of demand – the percent change in the quantity demanded divided by the percent change in the price.

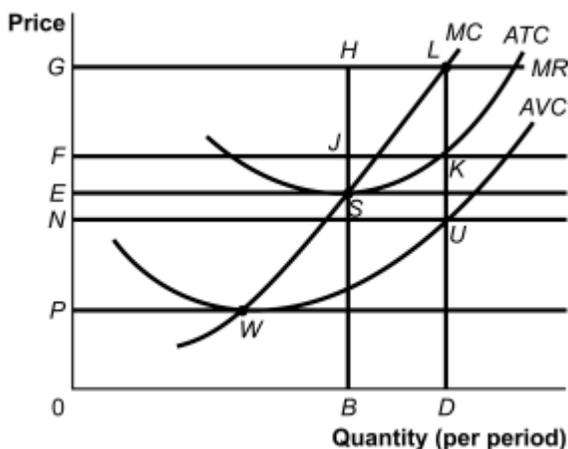
3. Assume you consume two commodities, pollution, which is a bad, and other stuff. Do your indifference curves for pollution and other stuff look the same as the indifference curves discussed in Krugman and Wells?

- A) Yes
- B) No
- C) Maybe

**B: If the other stuff are goods then the indifference curves are upward sloping, so not like in KW. If other stuff is bad, so two bads, the indifference curves are downward sloping but bend the opposite way from those in KW.**

Use the following figure to answer questions 4-5.

**Figure: A Perfectly Competitive Firm in Short Run**



4. (Figure: A Perfectly Competitive Firm in the Short Run) At a price of G, the firm's total cost is represented by the area \_\_\_\_\_, and its profits are \_\_\_\_\_.

- A) *FGLK*, negative.
- B) *FGLK*, positive.
- C) *OFKD*, negative.
- D) *OFKD*, positive.

**D: Total costs are average costs at quantity D, F multiplied by D, so OFKD. Total revenues are greater, OGLD, so profits are positive.**

5. (Figure: A Perfectly Competitive Firm in the Short Run) The price at which profits are zero is:
- A) *G*.
  - B) *F*.
  - C) *E*.
  - D) *N*.

**C: at a price of E at the profit maximizing quantity, price equals average costs**

6. The slope of a(n) \_\_\_\_\_ curve shows the rate at which two goods can be exchanged \_\_\_\_\_ the consumer's \_\_\_\_\_.
- A) marginal utility; which increases; marginal utility
  - B) indifference; without affecting; total utility
  - C) iso-utility; without affecting; budget
  - D) indifference; without affecting; budget

**B: The indifference curve has nothing to do with the budget, B is correct, and A makes no sense to me.**

7. Which of the following is *not* true for indifference curves of ordinary goods?
- A) They never cross.
  - B) They slope downward.
  - C) They are convex from the origin.
  - D) Indifference curves farther away from the origin have lower levels of utility.

**D: Since goods are goods, as one increases the amount of both goods (moves to the right), one moves to a more preferred bundle, one with higher utility, not lower utility.**

8. If the price of a cookie is \$1 and the price of a brownie is \$2, the relative price of cookies in terms of brownies is:
- A) 0.50.
  - B) 1.00.
  - C) 2.00.
  - D) undefined.

**A: The question asks how many brownies one has to give up to get one more cookie. One has to give up 1/2 of a brownie.**

9. If the marginal rate of substitution of cookies in terms of brownies equals the relative price of cookies in terms of brownies, the consumer:
- A) is maximizing her utility
  - B) should consume more cookies and fewer brownies to maximize total utility.
  - C) should consume fewer cookies and more brownies to maximize total utility.
  - D) may or may not be maximizing total utility.

**D: since the question says nothing about budget exhaustion, we do not know whether the respondent is maximizing utility.**

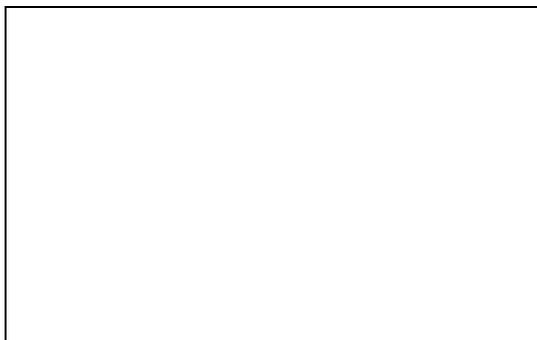
10. If Joseph chooses a combination of apples and oranges along his budget line where the marginal rate of substitution of apples in place of oranges is 2 and the price of an apple is \$0.50 and the price of an orange is \$0.50, then Joseph:
- A) is maximizing total utility.
  - B) should consume more apples and fewer oranges to maximize total utility.
  - C) should consume fewer apples and more oranges to maximize total utility.
  - D) may or may not be maximizing total utility.

**B: Joe would give up two oranges to get one more apple (if I interpret correctly), but only has to give up one orange to get another apple, so should consume more apples and fewer oranges. From Yuchen-- The MRS(apple to orange) is 2, larger than the price ratio = 1. So we need to decrease the MU(Apple) and increase MU(orange). Since utility function is diminishing return to scale, we will consume more apples to get its MU down.**

Use the following to answer questions 11-12.

**Figure: Indifference Map for Soda and Pizza**

The figure shows three of Owen's indifference curves for pizza and soda per week. Owen has \$180 per week to spend on the two goods; the price of a pizza is \$20 and the price of a soda is \$1.50.

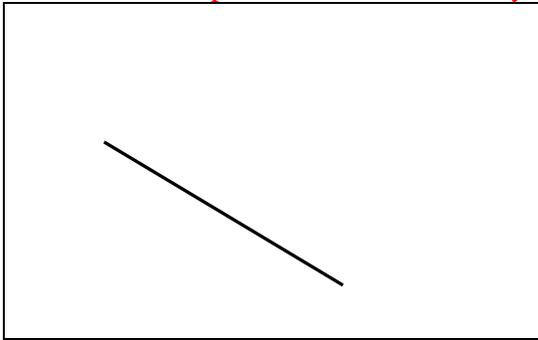


11. (Figure: Indifference Map for Soda and Pizza) If Owen is consuming 1.5 pizzas and 100 sodas, which of the following is true?

- A) Owen is maximizing his total utility, given his budget line.
- B) Owen should consume more pizza and less soda to maximize his total utility, given his budget line.
- C) Owen should consume less pizza and more soda to maximize his total utility, given his budget line.
- D) Owen should consume more pizza and more soda to maximize his total utility, given his budget line.

B: His budget line is  $S=120 - 13.33P$ ; so if he spends all of his money on soda he can consume 120 cans; if he spends all of his money on pizza he can buy 9 pizza. So at current bundle he is spending \$150 on soda and 30 on pizza, so is on his budget lines. The question is whether the slope of his budget line equals the slope of his indifference curve at this point.

Draw in the budget line on the above graph. The slope of the budget line is -13.33 Here is the graph with the budget line drawn in. You can see that it crosses the first indifference curve at the point given in the question and is tangent to the second indifference curve at 6 pizzas and 40 sodas, which shows he must increase pizza consumption to maximize utility.



12. (Figure: Indifference Map for Soda and Pizza) What is Owen's marginal rate of substitution of pizza in place of soda when he is consuming his optimal consumption bundle?
- A) 0.75
  - B) 1.5
  - C) 13.3
  - D) 20

I would have said 60. To get another .5 sodas he will give up soda, so 60? I am terribly confused her. Slope of the budget line (and indiff curve at that point) is  $120/9=-13.333$

13. Which of the following statements is true about Average Fixed Cost (AFC)?
- A) AFC is always less than Average Variable Cost
  - B) AFC is always less than Marginal Cost
  - C) AFC is always decreasing

D) AFC is constant across all quantities of output

C: Dividing a positive constant (fixed cost) by larger and larger numbers will make the ratio decline.

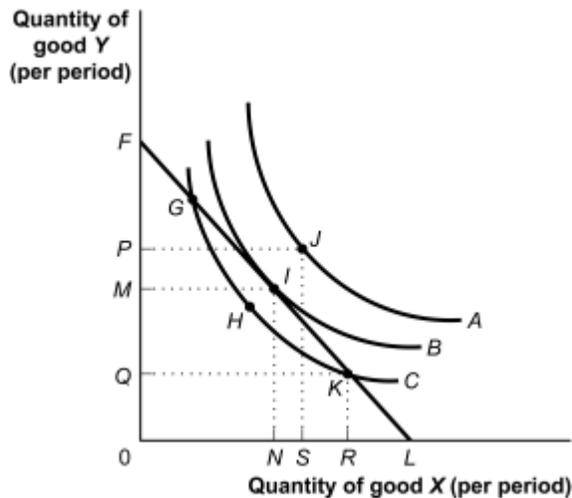
14. Assume an increase in the tax that oil and gas producers pay to the state of Colorado when they extract gas from the state of Colorado. Will the tax translate to higher gasoline and fuel prices for consumers?

- A) Yes, because demand for gas is inelastic in Colorado.
- B) Yes, because demand for gas is elastic everywhere.
- C) No, because the price of gas is determined by world demand and supply, and how much is supplied by Colorado is too small of the total to affect the price.
- D) No, because Colorado supply is inelastic
- E) Cannot determine because we don't know the elasticity of demand.

C:

Use the following figure to answer questions 15-16.

**Figure: Indifference Map for Goods X and Y**



15. Figure (Indifference Map for goods X and Y)

The indifference map shown above shows the consumer's preferences for:

- A) Two goods
- B) Three goods
- C) One good and one bad
- D) Two bads or two goods

A: if they were a good and a bad the indifference curves would be upward sloping. If both bads they would be downward sloping but curve the other way.

16. (Figure: Indifference Map for goods X and Y) Which of the following statements

about the points on the graph above is *not* true?

- A) G is feasible but not optimal
- B) I is feasible and optimal
- C) H is optimal and feasible
- D) J is not feasible

**C) H does not exhaust the budget constraint, so it is not optimal.**

17. Marginal revenue of a profit-maximizing firm:

- A) is the slope of the average revenue curve.
- B) equals the market price in perfect competition.
- C) is the change in quantity divided by the change in total revenue.
- D) is the price divided by the changes in quantity.

**B: a competitive firm can sell as much as it wants at  $p$ , so  $p$  is its  $MR$ .**

18. Price elasticity of demand measures the responsiveness of the change in:

- A) quantity demanded to a change in price.**
- B) price to a change in quantity demanded.
- C) slope of the demand curve to a change in price.
- D) slope of the demand curve to a change in quantity demanded.

**A: in percentage terms.**

19. Assume that Brazil gives up 3 automobiles for each ton of coffee it produces, while Peru gives up 7 automobiles for each ton of coffee it produces.

- A) Brazil has a comparative advantage in automobile production and should specialize in coffee.
- B) Brazil has a comparative advantage in coffee production and should specialize in the production of automobiles.
- C) Brazil has a comparative advantage in coffee production and should specialize in coffee production.
- D) Brazil has a comparative advantage in automobile production and should specialize in automobile production.

**C: to produce another ton of coffee, Brazil gives up 3 cars, Peru gives up 7.**

20. Rent controls set a price ceiling below the equilibrium price. Which is the best explanation of what will happen?

- A) quantity supplied exceeds the quantity demanded.
- B) quantity demanded exceeds the quantity supplied.
- C) a surplus of rental units will result.
- D) poor people will be helped.

**B: B is correct. A and C are incorrect. While some poor people might be helped they will not all be helped.**

21. True or False: As a general rule, a perfectly competitive firm should not produce where  $MC > ATC$ .

- A) True
- B) False**
- C) It depends on the fixed costs
- D) It depends on average fixed costs

**False: It should produce where  $MC > ATC$ . Prices are maximized where  $P = MC$ . If at this point  $MC < ATC$ , the firm would be losing money.**

22. Assume that aquarium fish and dog biscuits are the only two goods that Wilma consumes – what a diet. How would Wilma's indifference curves change if she woke up one morning having developed a stronger preference for dog biscuits? Assume that dog biscuits are on the x-axis and goldfish are on the y-axis.

- A) Her indifference curves would become less steep
- B) Her indifference curves would not change
- C) Her indifference curves would become steeper
- D) Her indifference curves will bend backwards

**C: Consider a point on the original indifference curve, and how many more biscuits she would need to give up a fish. After her preference for biscuits increases she would need fewer biscuits to make up for the lost fish; her indifference curve is steeper.**

23. Which of the following statements is true about the short run?

- A) The firm can go out of business
- B) The firm can produce zero output
- C) None of the above
- D) A & B

**B: The firm can produce zero output in the short run, but they cannot rid of their fixed costs, so must stay in business, keep paying the bills.**

24. When the benefit to you of doing something are lower than the benefits to society, from society's perspective

- A) you do too much of it
- B) you do too little of it
- C) you don't do it at all
- D) you do just the right amount

**B: You do too little of it. At your equilibrium level of consumption the marginal benefits to society are greater than the marginal costs to society.**

25. Why are Ford, GM and Chrysler in more precarious positions than the foreign automakers operating in the U.S.?

- A) Higher fixed costs
- B) Higher variable costs
- C) Both of the above

**C: They have higher fixed costs in terms of stuff like obligations to their retired workers. They have higher variables costs because how many hours there workers work can be varied in the SR and the big three face higher per-hour labor costs (union determined).**

26. Your preferences are determined by \_\_\_\_\_.

- A) Market prices
- B) Your constraints
- C) Market supply
- D) Only what is in your head

**D:**

27. How does one indifference curve represent a change in utility?

- A) There is no change in utility between indifference curves
- B) The utility taken away by giving up one unit of a good must be offset by the gain in utility from acquiring some amount of the other good.
- C) A single indifference curve represents two levels of utility
- D) The utility taken away by giving up one unit of a good must be offset by the gain in utility from giving up one unit of the other good.

**B: along the indifference curve utility is a constant.**

28. Which of the following equations for indifference curves puts more weight on sporting goods (s) than cleaning supplies (c)?

- A)  $U(s,c)=s^8c^4$
- B)  $U(s,c)=s^{1.6}c^1$
- C)  $U(s,c)=s^7c^5$
- D)  $U(s,c)=s^6c^6$

**A: look at the ratio of the two coefficients.**

29. Lars and Ingrid have the same preferences for Bibles and Jose Cuervo Gold Tequila. Lars consumes 3 Bibles and 4 bottles of tequila and Ingrid consumes 3 Bibles and 6 bottles of tequila. Which of the following must be true?

- A) Ingrid and Lars face different prices
- B) Ingrid and Lars have different levels of income
- C) Ingrid likes tequila more than Lars
- D) A or B or both
- E) A, B or C could be true

D: It could be because they have different incomes or because they face different prices, or both. The question said they have the same preferences, so it cannot be that.

30. Which of the following represents a condition that needs to be met for efficiency to be achieved in a market economy?

- A) Well-defined property rights
- B) Excess market power
- C) Negative externalities
- D) Perfect equity
- E) All of the above

A: D has nothing to do with efficiency. B and C are reasons that efficiency would not be achieved.

31. Which of the following are examples of external effects?

- A) I smoke a cigarette you are subjected to second-hand smoke
- B) I eat pizza for lunch and am happy because I like pizza
- C) You put Snow White and the Seven Dwarfs figurines in your yard and make your neighbors happy when they walk by.
- D) A&C
- E) A&B

D: A is a negative external effect, C is a positive external effect. In B there are no external effects mentioned.

False: many external effects are not efficiently taxed or regulated.

32. Since the beginning of the semester: Why did the price of gas go up? Why did the price of gas go down?

- A) Demand growth was outstripping supply growth; a worldwide recession decreased the demand
- B) Supply growth was outstripping demand; a worldwide recession decreased the price
- C) OPEC was refusing to produce more oil; Hugo Chavez decided to produce tons and tons of oil when the price was high
- D) OPEC was pumping more and more oil each month; Saudi Arabia decided to flood the market to punish OPEC for cheating

A:

33. An increase in the consumer's income will do all of the following, *except*:

- A) shift the budget line away from the origin.
- B) increase the horizontal intercept.
- C) increase the vertical intercept.
- D) change the slope of the budget line.

D: relative prices remain the same, so the slope of the budget line does not change.

Use the following to answer question 34-35.

**Table: Utility of Ice Cream Cones**

Cones	0	1	2	3	4	5	6	7
Total utility	0	20	35	45	50	50	45	35

34. (Table: Utility of Ice Cream Cones) The marginal utility for the second ice cream cone is:

- A) 35.
- B) 15.
- C) 10.
- D) 5.

B: utility increases from 20 to 35 when you eat the second cone.

35. (Table: Utility of Ice Cream Cones) True or False: Ice cream cones are a good.

- A) True
- B) False

B: They are neither a good or a bad. They start off as a good, but go bad at high levels of consumption.

36. When you do stuff where the cost to you is less than the cost to society, from society's perspective

- A) you do too little of it
- B) you do too much of it
- C) you do just the right amount
- D) you don't do it at all

B: You do too much. At your level of consumption the marginal benefit to society is less than the marginal cost.

37. True or False. There is an efficient amount of each external effect.

- A) True
- B) False

38. Consider the George tattoo example from class. Which of the following are necessary conditions for George's tattoo consumption to constitute a negative externality market failure?

- A) George doesn't internalize the costs his tattoo consumption imposes on society
- B) George's tattoo consumption directly affects other people (not through prices)
- C) George is consuming more tattoos than is efficient
- D) George's tattoo consumption causes prices to rise
- E) A, B, & C

E:

39. Consider the George tattoo example from class. Which of the following, from an economist's perspective, is the best way for the government to entice George to put fewer tattoos on himself?

- A) The government could pass a law saying that George can only have 4.2 tattoos (the efficient amount)
- B) The government could tax George for each tattoo he has.
- C) The government could ban tattoos on George
- D) A & B

D: C would leave George with too few tattoos from society's perspective.

40. What is a Pigouvian tax?

- A) A tax that attempts to drive up demand
- B) A tax that internalizes the inefficiency associated with an external effect**
- C) A tax that attempts to address the inefficiency associated with price floors
- D) A tax on property rights

B: by definition

41. True or False: There is a cost associated with reducing pollution

- A) True
- B) False

True: if there was not, we could get rid of all pollution at zero cost, and would.

42. True or False: There is an efficient amount of pollution from society's perspective that is greater than zero

- A) True
- B) False

True: it would cost too much to eliminate all pollution: you would have to stop breathing.

43. Gary Hart, a former Senator from Colorado and former candidate for the Democratic nomination for President, said, "Pollution is a bad that we must get rid of." Your best response as an economist is

- A) Maybe
- B) Yes
- C) No

No: there is an efficient amount of pollution

Use the following information to answer questions 44-45.

The government gave out 300 tradable pollution permits to a number of firms that produce steel. Each permit allows the producer to emit 1 ton of pollution per year; if a firm pollutes without a permit, the owners are shot. Without regulations or permits you produce 4 tons of pollution per year. If you reduced your pollution by 1 ton it would cost you \$100; if you reduced your pollution by 2 tons it would cost you a total of \$300; if you reduced your pollution by 3 tons it would cost you a total of \$600; and if your pollution is reduced by 4 tons the total cost would be \$1000.

44. Then, you are given 3 tradable permits. Your neighbor, whose plant is much older than yours, offers to pay you \$250 for each permit you are willing to sell him. You should \_\_\_\_\_.

- A) Sell him two permits and reduce your pollution by three tons
- B) Sell him three permits and reduce your pollution by four tons
- C) Sell him one permit and reduce your pollution by two tons
- D) Don't sell him any of the permits and reduce your pollution by one ton

C: You can increase your profits by selling the other guy one permit. This requires that you reduce your pollution by two permits. Your costs go up by \$300 and your revenue goes up by \$250. So you lose \$50 in profits. If you reduced your pollution by only one unit (no sales to him), your profits would go down by \$100. If you reduced your pollution by 3 units (selling two to him) your costs would increase by \$600 and your revenues would increase by \$500, so your profits would go down by \$100. If you reduced your pollution by four tons, selling 3 to him. Your profits would decline by \$250 (\$750-\$1000).

45. Now, assume you are given zero permits. Which of the following statements is correct?

- A) All of the following
- B) If the going price of a permit is \$100, you should pollute three or four tons
- C) If the going price of a permit is \$200, you should buy one or two permits
- D) You should buy two or three permits if the going price of a permit is \$300

A: if the price of a permit is \$100, since it cost \$100 to reduce pollution from 4 to 3 units, you are indifferent between producing 3 or 4 units of pollution (buying or not buying one permit). If the price of a permit is \$200, reduce as long as the cost of reducing is less than \$200, so reduce at least one unit (buy at least one permit). You are indifferent to buying the second permit because you can reduce pollution by a second unit for a cost \$200 or pollute it and pay \$200 for the permit. If the going price is \$300, it is profitable to buy two permits, but you are indifferent about buying a third permit.

46. Because they bother other users, the City of Boulder has banned mountain bikers from most of the trails in the City of Boulder. True or False: The ban likely has achieved the efficient use of our trails?

- A) True
- B) False

**B: the efficient number of bikers is likely not zero.**

47. Consider the George's tattoo example from class. Assuming others do not like George's tattoos, which answer best describes the vertical distance between the benefit to George from adding a tattoo to his body, and the benefit to society from George adding the tattoo

- A) The benefit to society from George adding the tattoo.
- B) The willingness-to-pay of others members to stop the tattoo being added
- C) The cost of producing the tattoo.
- D) None of the above

**B: the marginal benefit curve for society lies below the marginal benefit curve for George because his tattoos make others worse off. The vertical distance is their loss, so what they would pay to get rid of it.**

48. True or False: An externality has occurred if a bunch of people move to Boulder and drive up the cost of housing.

- A) True
- B) False

**False: this is an example of the market working, not a **direct** external effect.**

49. Of the following, choose the *best* answer to the question: What causes market failures?

- A) Government price controls
- B) The lack of fairness in the distribution of wealth
- C) Market prices sending the wrong signals
- D) A & C

**C: Government price controls might cause inefficiency but are not the fault of the market, so are not "market" failures.**

50. True or False: There can be too little pollution from an efficiency point of view.

- A) True
- B) False
- C) Probably true
- D) Probably false

**C: The sense is that we have under rather than over corrected for the negative external effects from pollution. But it is difficult to say with 100% certainty**

51. True or False: Assume that the following conditions hold: the government enforces property rights, there are no market failures and society approves of how wealth is distributed. Thus, the government should do nothing more (build no roads, build no schools, and produce no national defense, nothing).

- A) True
- B) False

**True the allocation is efficient and the distribution is fair, so there is nothing for the government to do besides enforce property rights.**

52. What determines the rate you are willing to substitute guns for Obama posters

- A) Market prices
- B) Your preferences
- C) Your preference and market prices
- D) The slopes of your budget line and the slope of you indifference curve.
- E) More than one of the above.

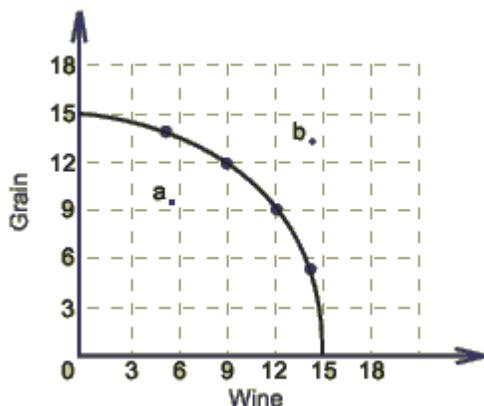
**B: Your MRS is only determined by your preferences, not by prices.**

53. Candy bars and cookies are substitutes. The government puts an excise tax of \$1 on candy bars. The burden of the tax falls partly on producers and partly on consumers. How will this tax on candy bars affect the demand for cookies?

- A) Demand for cookies will increase.
- B) Demand for cookies will decrease.
- C) Demand for cookies will stay the same.
- D) It is impossible to tell from the given information.

**A: the price of candy bars goes up increasing the demand for substitutes of candy bars.**

Use the figure to below to answer questions 54-55.



54. The concave shape of the Production Possibilities Frontier shown above reflects

- A) Increased opportunity cost
- B) Constant returns to scale
- C) The Law of Diminishing Marginal Utility
- D) The Law of Diminishing Marginal Cost

**A: As the quantity of grain increases, you must give up more and more wine in order to increase your production of grain by one unit.**

55. In the figure above, point “a” represents:
- A) Efficiency in production
  - B) Inefficiency in production
  - C) Production beyond technological capabilities
  - D) Not enough information to tell

**B: point “a” is inside the PPF**

Use the information below for questions 56-58.

Joe used to make \$40,000/year and rented 150 movies to watch by himself each year. In 2005, Joe was given a promotion and his salary was increased to \$50,000. Subsequently, Joe rented 30 more movies per year.

56. What is Joe’s income elasticity of demand? (Hint: Use the midpoint formula)
- A) 1.25
  - B) 1
  - C) .818
  - D) It is impossible to tell from the information given.

C: Income elasticity of demand is:

$$\frac{\% \text{ change in quantity demanded}}{\% \text{ change in income}}$$

$$= [(180-150)/165] / [(50,000-40,000)/45,000]$$

57. Which is Joe’s price elasticity of demand? (Hint: Use the midpoint formula)
- A) 1.25
  - B) 1
  - C) .8
  - D) It is impossible to tell from the information given.

**D: No information on prices is given.**

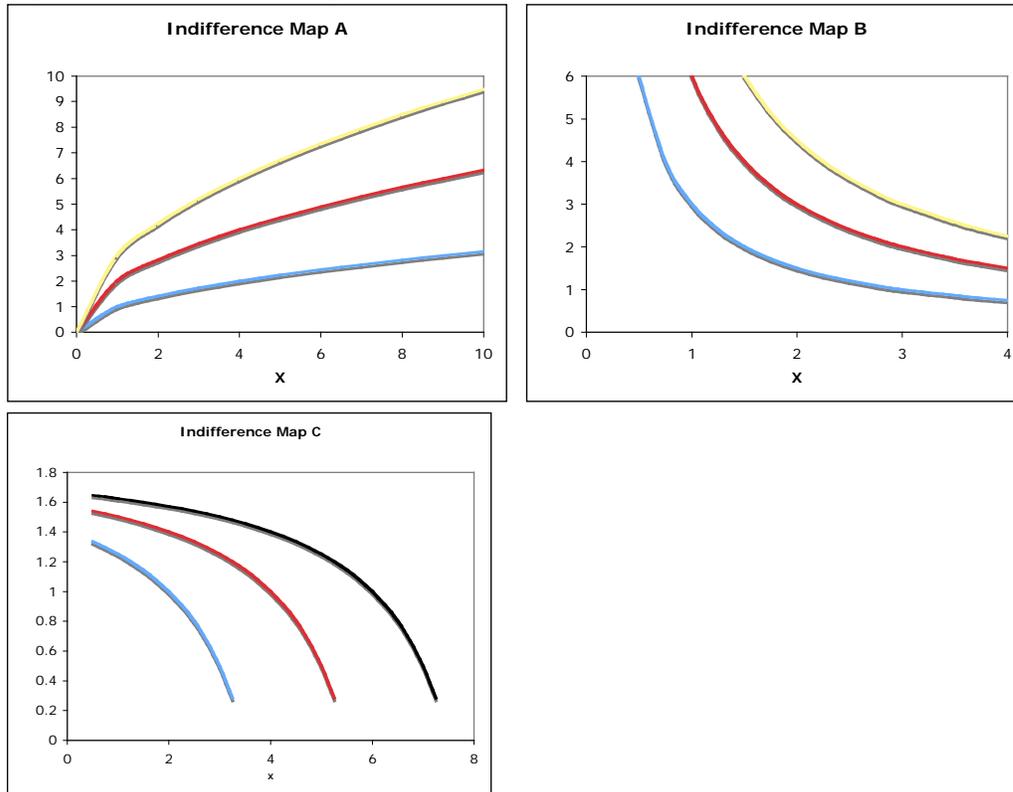
58. For Joe, movies are a
- A) Normal good

- B) Inferior good
- C) Giffen good
- D) Luxury good

A: demand increased when income increased by the elasticity is less than one, so it is a normal good.

Use the following figure to answer questions 59-61.

**Figure: Indifference Maps of Goods and Bads**



59. (Figure: Indifference maps of goods and bads) Of the maps above, which represents indifference curves for two bads?

- A) Map A
- B) Map B
- C) Map C
- D) Map A and Map C

C: Map A represents one good and one bad. For two bads the indifference curve must be downward sloping: to accept more of one bad you had to have less of the other bad. The question comes down to shape. Explaining in a way beyond the students, the upper level sets have to be convex sets; this is true for C but not for B.

60. (Figure: Indifference maps of goods and bads) Which of the following reasons best explains one reason why your answer to the question above is correct?

- A) The indifference curves are increasing in utility as you move away from the origin.
- B) The indifference curves are downward sloping, which they must be for two bads.
- C) The indifference curves are downward-sloping and increasing in utility as one moves towards the origin.
- D) With two bad, the indifference curves must have a positive slope.

C: see my answer to 59

61. (Figure: Indifference maps of goods and bads) Of the maps above, which represents indifference curves for one bad and one good?

- A) Map A
- B) Map B
- C) Map C
- D) Maps A and Map C

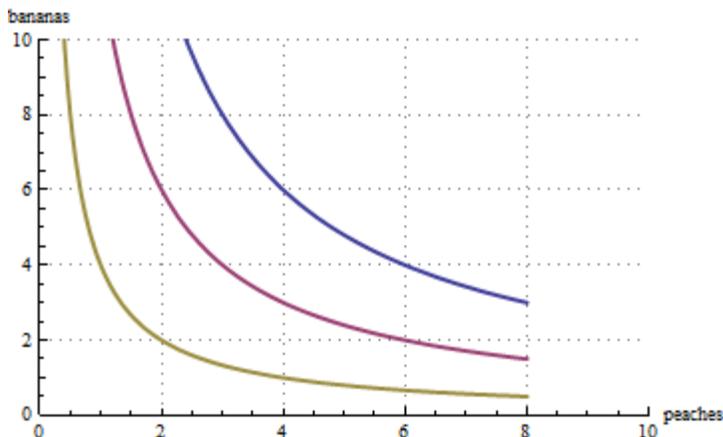
A: if you get more of the good commodity to hold utility constant you need to get more of the bad commodity.

62. True or False: Myrna can produce an efficient number of tattoos for herself without it being efficient from a societal perspective.

- A) True
- B) False

True: If Myrna's tattoos affect other people and she does not have the correct incentive to take this into account, she will have too many or too few from society's perspective.

**Figure: Ellen's indifference curve map for bananas and peaches.**



Answer questions 63-65 based on Ellen's indifference curve map for bananas and peaches given above.

63. (Figure: Ellen's indifference curve map for bananas and peaches) Ellen has \$10 to spend on bananas and peaches and the prices of each is \$1. What is her optimal bundle?

- A) 2 bananas, 2 peaches
- B) 4 bananas, 6 peaches
- C) 7 bananas, 3 peaches
- D) 4 bananas, 2 peaches

**B: Ellen will maximize utility given the budget line when she consumes 4 banana and 6 peach. He also exhausts his budget when he consume bundle C, but that is not optimal. Once you draw the budget line, you can check that.**

64. (Figure: Ellen's indifference curve map for bananas and peaches) What is the marginal rate of substitution of peaches for bananas when she is consuming her optimal bundle?

- A) 1/10
- B) 1/5
- C) 1
- D) 5

**C: At the optimal bundle, MRS equals the ratio of prices, and the prices are equal**

65. (Figure: Ellen's indifference curve map for bananas and peaches) Ellen now has \$20 to spend on banana and peach and the prices of both are \$2 each. What's the optimal bundle?

- A) 2 bananas, 2 peaches
- B) 4 bananas, 6 peaches
- C) 5 bananas, 5 peaches
- D) 4 bananas, 2 peaches

**B: His budget line does not change from the original. So his optimal bundle would be same.**

66. The marginal rate of substitution of peaches for apples, in absolute terms, is represented by \_\_\_\_\_.

- A) How many apples one would give up to get another peach
- B) How many peaches one would give up to get another apple

**A: Note that word "for – "of peaches for apples". So this is the change in apples divided by the increase in peaches, holding utility constant, and converted to a positive number. For example if it is 4 it says to get one more peach you would give up four apples.**

67. Imagine a wilderness park in the middle of nowhere, filled with exotic wildlife and fauna. No one visits the park; it is too far to go. Which of the following statements would an economist most agree with:

- A) The park is a good example of a public good
- B) The park is a bad example of a public good.

**A: The answer is good example. The benefits one get from the park are non-use values and non-congestible. In addition once the park is created for you it is also there for me.**

68. True or False: A congestible resource is one where one person's use of a unit of the resource precludes the use of that unit by others.

- A) True
- B) False

**True: This is the definition of congestible resource.**

69. Imagine that the three firms that produce Guber gas all have the same marginal cost of abatement curves. Further assume that in the unregulated state they all emit the same amount of Guber gas. Which statement is incorrect?

- A) Guber gas emissions can be efficiently reduced by 100 units by splitting the 100 unit reduction among the three firms such that each is reducing emissions the same amount.
- B) Efficiently reducing Guber gas emissions by 100 units requires different amounts of abatement for the three firms.
- C) Guber gas emissions can be efficiently reduced by 100 units by splitting the 100 unit reduction among the three firms such that each after the split the marginal cost of abatement is equal for all three firms.

**B: The second one is incorrect. They all have the same marginal cost of abatement curves, so the same marginal costs of abatement. So, efficiency dictates that they all reduce their pollution by the same number of units. A and C are correct statements.**

70. Will widening I-70 between Denver and Summit County, by itself, eliminate all congestion externalities on the highway?

- A) Yes
- B) No
- C) Maybe
- D) Can't tell

**B: The answer is no. There will still be un-internalized negative effects.**

71. True or False: I would enjoy another cigar more than another cigarette. I should therefore smoke another cigar rather than another cigarette.

- A) True
- B) False

**False: The fact that I would enjoy it more does not mean I should choose it. Which I should choose also depends on the price.**

72. Which statement best describes microeconomics?

- A) It develops models of how individual and firms behave assuming that individuals behave rationally.
- B) It is a course in how to run a business and get more utility from life.
- C) It is science devoted to understanding and explaining the choices made by individuals, firms and other economic agents, and the outcomes of those choices.
- D) It helps to explain the current recession.

C:

73. True or False: Basic consumer theory is consistent with the idea that one's preferences are a function of what they consume?

- C) True
- D) False

False: Preferences are assumed stable. In basic consumer theory, what you consume affects your utility level but not your preferences

74. Which of the following is the **best** definition of property rights?

- A) Having property rights to a commodity means one owns it. For example, one can build a house on your land because you own it.
- B) Having property right to a commodity means one can sell it to someone else
- C) Having property rights to a commodity means that one can control access to its use and consumption. One can, if they choose to, relinquish these controls
- D) All of the above

C: Saying that having property rights means you "own it" is not very informative. B is true by incomplete. C gives the most detailed definition.

75. True or False: Everybody does everything better than Joe. If he works, he should work producing what he can produce the most of per hour.

- A) True
- B) False

False, he should produce the commodity for which he has a comparative advantage, which might be the commodity he can produce the most quickly (has an absolute advantage), but not necessarily.

76. True or False: The U.S. should do everything it can to eliminate violent crime in the U.S.

- A) True
- B) False

False: have to look at the benefits and costs of eliminating additional crime. The marginal cost of or eliminating crime likely rises steeply.

77. The basic economic models of consumer behavior does not assume:

- A) Five utils of utility is better than 2 utils.
- B) Five utils of utility is 2.5 times better than 2 utils
- C) Transitive preferences.

B: the model only assumes the individual can rank bundles. They won't know what transitive preferences are but that is ok.

78. In the mind of a economist, which statement is least correct?

- A) There is some efficient amount of global warming
- B) There is a cost to reducing global warming
- C) The benefits of reducing global warming are always greater than the costs.
- D) It might be better to help now poor people in low-lying tropical countries rather than allocating resources to reducing global warming.

C:

79. True or False: City, State and National parks are public goods:

- A) True
- B) False

False: While they are provided by the government, they are congestible.

80. True or False: If a purely competitive firm took it upon itself to reduce its pollution it would go out of business in the longrun.

- A) True
- B) False

True.