

Principles of Microeconomics
Professor Edward Morey
ECON 2010-2300
Midterm 1
October 1, 2008
Version A

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

Name: _____ Date: _____

Signature: _____

Notes on first midterm:

The range went from approximately 40 to the high 90's

The average was around 75%.

The percentages getting A's and F's were low.

You will get your grade from your T.A. in recitation.

Note that the goal is to choose the **best** answer from those available.

1. A negative relationship between the quantity demanded and price (price on the vertical axis) is called the law of:

A) demand.

B) increasing returns.

C) market clearing.

D) supply.

2. Although water is very abundant in most places, it is scarce because:

A) it has no alternative uses.

B) there is not enough of it to meet all needs.

C) it is a free good.

D) scarce goods in general are not all that costly.

A more formal definition of scarcity is that demand exceeds supply at a zero price.

For such a commodity everyone could have as much as they wanted at a zero price.

Another way of putting it is that using it has no opportunity cost: no matter how much I consume or use, it has no affect on how much is available for others.

Without scarcity there would be no need for economics (no economic problem).

Can you think of something that is not scarce; that is, demand for it exceeds supply at a zero price?

3. Which of the following is the best definition of an economic system?

A) The market

B) The process a society uses to determine what will be produced and who will get it.

C) Supply and demand

D) The family

A *market* and a *family* are both examples of an economic system, neither is a definition of an economic system. There are many examples of economic systems that are not a market or a family. In terms of necessary and sufficient, either is sufficient to be an economic system, but not necessary.

Supply and demand are simply two components of a market.

U.S. students of economic systems then to think a market system and an economic system are one and the same. This is not correct. A market system is a type of economic system but there are many types of economics systems besides markets (governments, charitable organizations, command and control, a firm, etc.)

4. The opportunity cost of leaving the skating championship before it ends is ____, while the opportunity cost of staying for the entire competition is ____.

A) missing the rest of the competition - zero (the ticket is already paid for)

B) missing the rest of the competition - getting stuck in the post-championship traffic jam

C) zero (you don't have to pay to leave) - zero (the ticket is already paid for)

D) none of the above

The opportunity cost of leaving early is simply missing the rest of the event (what you give up because you are not there). Maybe it would have been exciting and memorable, so the cost of leaving early was high. Maybe the rest was boring and you missed little.

The opportunity cost of staying is what you would have done if you had left early. For example getting home earlier and watching reruns of the Simpsons. One of the costs of staying is taking longer to get home - by staying you gave up a faster ride home.

Some of you answered D) using the following argument. "B) is incorrect, and should say '**Not** missing the rest of the competition, and **not** getting stuck in the'"

I disagree. In explanation, "not missing" the rest of the competition is equivalent to *staying for* the rest of the competition, and if you stay for it you do not pay the cost of missing it.

5. Gains from trade arise partly because of:

- A) **specialization in production.**
- B) specialization in consumption.
- C) marginal analysis.
- D) individual choice.

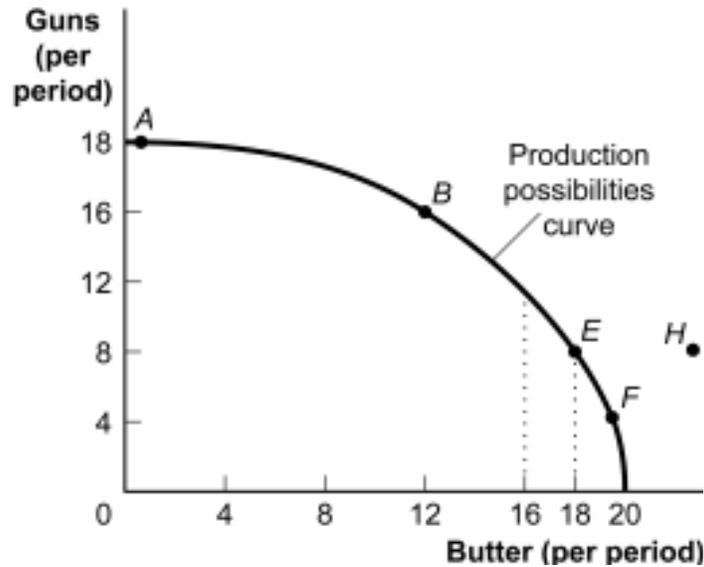
6. When the United States and Mexico trade:

- A) the United States will be worse off because wages in Mexico are so low.
- B) Mexico will be worse off because the United States is a stronger economic power.
- C) **Total consumption in both Mexico and the United States will increase.**
- D) Total consumption in both Mexico and the United States will decrease.

Each country will have some comparative advantages. If each country concentrates its production in those goods in which it has a comparative advantage, and then trades, there will be more good in total.

Since one would not trade unless it made them better each country will get some of the increased production.

Note that trade does not make everyone in both countries better off (international trade is typically not a Pareto improvement for all of the citizens in both countries). Some people in each country will be worse off (e.g. low skilled workers in the U.S. when their firm moves to Mexico). However, the gains to the gainers will be greater than the loss to the losers.



7. Economists say an economy is efficient when:

A) the problem of scarcity is eliminated.

B) output is distributed equitably.

C) all opportunities to make some people better off without making other people worse off have been taken.

D) all opportunities to make some people worse off without making other people better off have been taken.

Scarcity is never eliminated. An efficient system might or might not be fair. For example, the market system is designed to move toward efficiency, but it was never designed to be fair: those who start with a lot of resources end up with a lot of stuff, those who start with few resources end up with little. That is why rich people like markets more than poor people like markets.

Use the following to answer questions 8-10.

8. (Figure: Health Care and Dead Terrorists) On this figure, points A, B, E, and F:

A) indicate combinations of health care and dead terrorists that society can produce using all of its factors efficiently.

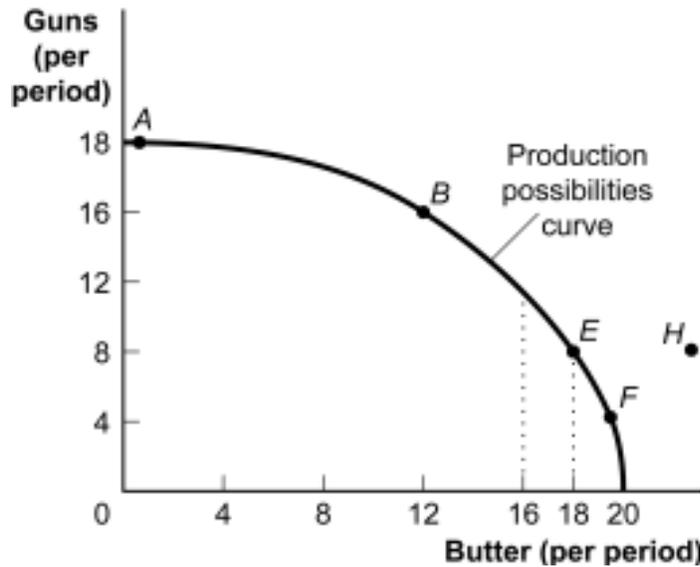
B) show that the opportunity cost of more dead terrorists increases, but that of more health care decreases.

C) indicate that society wants health care more than dead terrorists.

D) indicate constant costs for dead terrorists and increasing costs for health care.

The graph simply shows what is possible; it says nothing about what this society wants or does not want.

The opportunity cost producing more dead terrorists increases, in terms of decreased health care, as one produces more and more dead terrorists. Saying the same thing another way, the cost of producing more health care increases, in terms of fewer dead terrorists, as one produces more and more health care.



9. (Figure: Health Care and Dead Terrorists) If the economy were operating at point B, producing 16 units of dead terrorists and 12 units of health care per period, a decision to move to point E and produce 18 units of health care:

A) indicates you can have more health care and dead terrorists simultaneously.

B) makes it clear that this economy experiences decreasing opportunity costs.

C) involves a loss of 8 units of dead terrorists. - dead terrorists decline from 16 to 8

D) involves a loss of 4 units of dead terrorists.

10. (Figure: Health Care and Dead Terrorists) If the economy were producing 8 units of dead terrorists and 12 units of health care:

A) the notion of increasing opportunity cost is invalidated.

B) this is a possible choice, but would involve unemployment and/or inefficiency

C) the economy is still efficient but has made a decision not to buy as much as it could.

D) something must be done to reduce the amount of unemployment.

At this point the, the society is operating inside the PPP, so production is inefficient, and there is unemployment of some resources

D) is a close second. It does not mention inefficiency.

11. One economy is said to have a comparative advantage over another economy in the production of a good if it can produce that good:

- A) with fewer resources than the another economy.
- B) with a higher opportunity cost than another economy.
- C) outside its production possibilities curve.
- D) at a lower opportunity cost than the another economy.

A) indicates an absolute advantage rather than a comparative advantage.

B) says it has a comparative advantage if its opportunity cost of production is higher than the other country's, which means a comparative disadvantage.

C) is impossible.

12. 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.

13. If countries do not engage in international trade:

A) they give up some of their the ability to specialize in production.

B) worldwide levels of production are lower.

C) the world will be operating inside its production possibilities curve.

D) all of the above.

14. Greta starts using a new baking technique and she can now do twice as much of everything—in a single day Greta can now make 10 cakes or 8 pies, rather than the 5 cakes and 4 pies she could previously bake. We now know that:

A) Greta's production possibilities frontier has shifted right, but her opportunity cost of making a pie is unchanged.

B) Greta's production possibilities frontier has shifted right, but her opportunity cost of making a pie has decreased.

C) Greta's production possibilities frontier has not changed, but her opportunity cost of making a pie has increased.

D) Greta's production possibilities frontier has not changed, but her opportunity cost of making a pie has decreased.

15. Which is the best definition of market failure?

A) Prices are too high

B) Government intervention in the market place price causes inefficiency

C) The unregulated market equilibrium is inefficient

D) When some goods are consumed they negatively affect other people.

D) is an example of a market failure, not a definition. It is called a negative externality.

C) is non-market failure - government intervention causing inefficiency

A) What does "too high" mean? Prices that are too high, or too low, could be caused by many things, including but not limited to market failure.

16. (Here, price is on the y-axis and quantity is on the x-axis). An announcement that smoking reduces sex drive will most likely result in:

A) an increase in the quantity of cigarettes demanded.

B) a leftward shift in the demand curve for cigarettes.

C) no change in smoking habits.

D) an increase in the price of cigarettes.

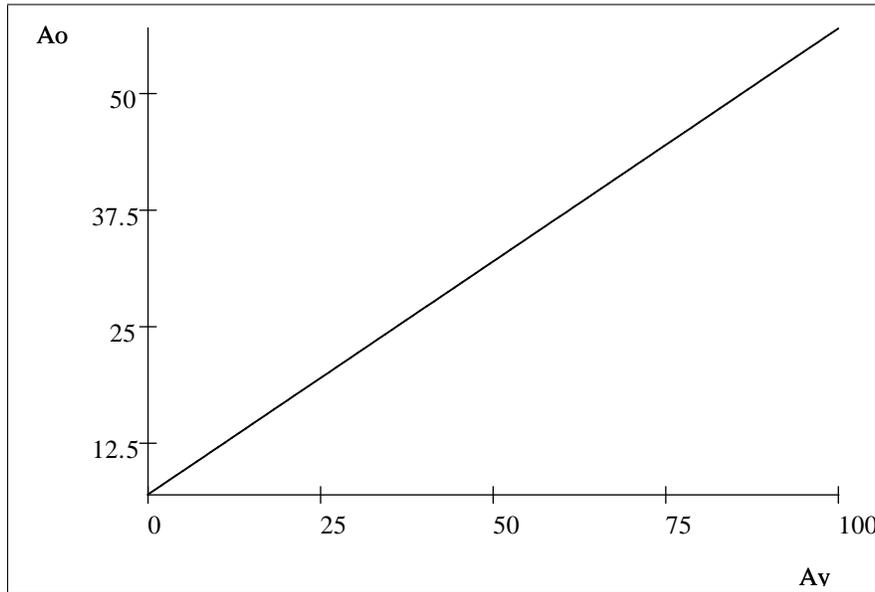
The demand curve for cigarettes will shift to the left (fewer cigarettes demand at each price), assuming people like their sex drive.

The following statement applies to questions 17 and 18. The dating constraint is that you cannot date someone less than half your age plus 7

let A_y denote your age, and let A_o denote the age of the other younger person. The constraint is

$$A_o \geq .5A_y + 7$$

Graphing this



17. Wilbur is 42 years old. Lois is 65, Jane is 22, Bill is 26 and Denise is 31. Given the rule Wilbur can date

$A_o \geq .5A_W + 7 = .5(42) + 7 = 28.0$. So Wilbur can date only Lois and Denise.

- A) Only Lois
- B) Bill or Denise
- C) No one
- D) None of the above**

18. George wants to date Jane. What is the oldest age he can be and still be allowed to date Jane

$A_J \geq .5A_W + 7$. So $22 \geq .5A_W + 7$. So Wilbur must 30 or less. The oldest age listed that is 30 or less is 29

- A) 25
- B) 32
- C) 29**
- D) 28

19. Which expression best captures what an economist means by “constraints”

A) Constraints are things that limit what we can do and buy

- B) Constraints are things that we cannot control
- C) Constraints affect our love life
- D) Then main constraint is not having enough money

Constraints do affect our love life; e.g. being dumb, old or ugly.

Money is one type of constraint, but often not the main constraint.

It is true that "constraints are things that we cannot control" but A) captures best the importance of constraints and the role they place in economics. Without constraints there would be no need for economics. If you faced no constraints you would face no opportunity costs.

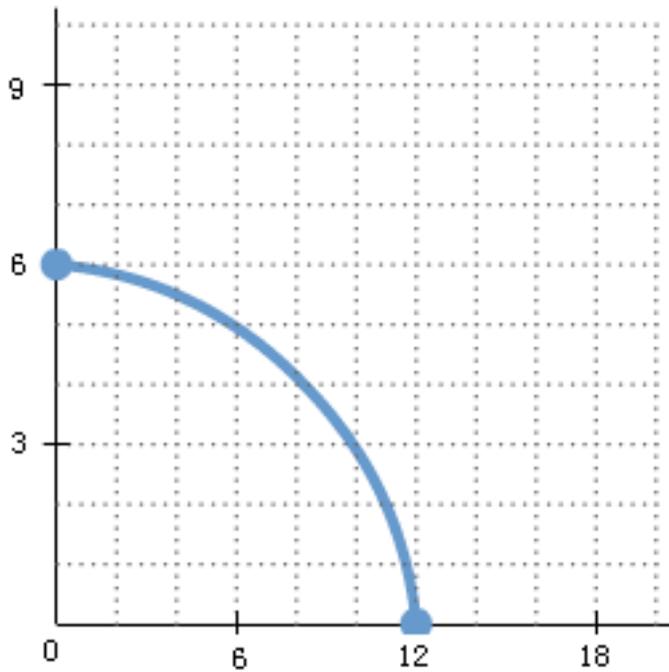
20. A shift to the left of a supply curve (price on the vertical axis) could be caused by:

- A) an increase in the number of sellers.
- B) a technological improvement.
- C) an increase in the cost of an input.**
- D) an increase in the number of buyers.

A shift to the left of the supply curve means that at every price less will be supplied to the market.

- A) and B) would cause an increase in supply, not a decrease
- D) will affect the demand curve but not the supply curve.

21. The curve in the below graph passes close to the point (8, 4). Near this point, what is the approximate value of the slope of the curve?



At the point

(8, 4), if one increases x by one unit (from 8 to 9), y will decrease by .5 units (from 4 to 3.5)

- A) -1
- B) 1
- C) 0
- D) -0.5

Next time we more put more numbers on the axis

Use the following to answer questions 23-25.

Table: The Market for Chocolate-Covered Peanuts

Price (per bag)	Quantity demanded (bags per month)	Quantity supplied (bags per month)
\$0.90	70	280
\$0.80	105	245
\$0.70	140	210
\$0.60	175	175
\$0.50	210	140
\$0.40	245	105
\$0.30	280	70

22. (Table: The Market for Chocolate-Covered Peanuts) If the price of chocolate-covered peanuts is \$0.80, there is:

- A) a surplus of 140 bags per month. 245 (supply) minus 105 (demand)
- B) a shortage of 140 bags per month.
- C) a surplus of 70 bags per month.
- D) a shortage of 70 bags per month.

23. (Table: The Market for Chocolate-Covered Peanuts) A surplus of 210 bags of chocolate-covered peanuts exists if the price is _____ per bag.

- A) **\$0.90** at 90 cents supply is 280 and demand is 70 for a difference of 210
- B) \$0.80
- C) \$0.60
- D) \$0.40

24. (Table: The Market for Chocolate-Covered Peanuts.) A shortage of 210 bags of chocolate-covered peanuts exists if the price is _____ per bag.

- A) \$0.80
- B) \$0.60
- C) \$0.40
- D) **\$0.30** demand is 280 and supply is 70

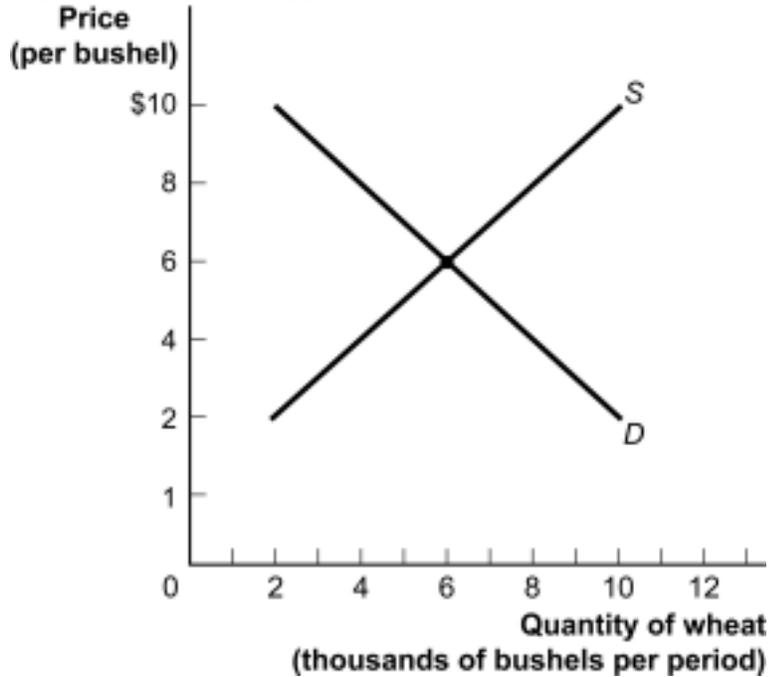
25. If the quantity of housing supplied in a community is greater than the quantity of houses demanded, the existing price:

- A) is above the market equilibrium price.
- B) will rise to clear the market.
- C) will either rise or remain unchanged.
- D) is below the market equilibrium price.

when the price is above the point where supply equals demand (the equilibrium price) firms supply more than consumers want to buy at that price

Use the following to answer questions 26-27.

Figure: Demand and Supply of Wheat



26. (Figure: Demand and Supply of Wheat) A price of _____ will result in a _____, and a price of _____ will result in a _____.

A) \$6; shortage; \$8; surplus - the first statement is incorrect (its equil), the second statement is correct.

B) \$8; surplus; \$4; shortage at \$8 supply is 8 and demand is 4 so there is a surplus and the first statement is true. At \$4 demand exceeds supply and there is a shortage so both statements are true.

C) \$8; shortage; \$6; surplus - the first statement is incorrect and the second statement is incorrect.

D) \$4; surplus; \$8; shortage - the first statement is incorrect; the second statement is incorrect

27. (Figure: Demand and Supply of Wheat) If there were a decrease in supply of 2,000 bushels at each price, the equilibrium price and quantity would be _____ and _____ units, respectively.

The supply curve shifts to the left by 2000 bushels; e.g. at \$6 supply will drop from 6000 to 4000 at \$7 supply will drop from 7000 to 5000, and 5000 at \$7 is the new equilibrium.

A) \$5; 5,000

B) \$7; 5,000

- C) \$6; 4000
- D) \$8; 6,000

28. Rent controls set a price ceiling below the equilibrium price, therefore:
- A) quantity supplied exceeds the quantity demanded.
 - B) quantity demanded exceeds the quantity supplied.**
 - C) a surplus of rental units will result. - no, the opposite
 - D) poor people will obviously be helped. - some will be helped but many will not be helped

Use the following to answer questions 29-31.

Table: Market for a can of Red Bull

Market for a can of Red Bull		
Price (\$/unit)	Quantity demanded (units)	Quantity supplied (units)
0.50	10	7
0.75	8	8
1.00	6	9
1.25	4	10
1.50	2	11

29. (Table: Market for a can of Red Bull) If the government imposes a price floor of \$1.00 per can of Red Bull, there will be a(n):

- A) shortage of 2 units.
- B) shortage of 3 units.
- C) surplus of 3 units.
- D) equilibrium in the market for Red Bull.

30. (Table: Market for a can of Red Bull) If the government does not impose a price control, the price of a can of Red Bull will equal:

- A) \$0.50.
- B) \$0.75.**
- C) \$1.00.
- D) \$1.25.

31. Assume the government fixes the price of Red Bull at \$1.50 a can. Which of the following statements **best and most fully** explains why this is inefficient?

- A) Some potential drinkers will be frustrated
- B) Some sellers will be frustrated
- C) Resources will be wasted producing Red Bull
- D) Transactions at a lower price could make some buyers and some sellers better off, without hurting anyone.**

All four statements are correct, but D most fully explains why it is inefficient.

32. Price ceilings which lead to shortages will impose costs on society because they:

- A) will lead to long waiting lines.
- B) may result in black-market prices, which are higher than the market-determined price would be.
- C) lead to a smaller quantity offered on the market.
- D) do all of the above.

Discuss price ceilings on milk in China. There is a price ceiling on milk in China. Cost of raw materials have increased substantially, squeezing the producers. The producers need to demonstrate that the milk has a certain protein content. One way to decrease the cost of producing milk is to add water but then add a chemical that tricks the protein test, making it appear that the milk has more protein than it actually has.

Economic theory of price ceiling would suggest a price ceiling will cause a quality decrease. Chinese milk is a good example.

33. 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.

It is called price elasticity or own-price elasticity if the price is for the good in question, and cross-price elasticity if the price is the price of a different good.

34. If you are a cocaine addict, your own-price elasticity of demand for cocaine is likely to be:

- A) inefficient
- B) inelastic**
- C) elastic
- D) efficient
- E) none of the above

You are addicted to need to consume the same amount or more, no matter the price, so your demand is inelastic. You might have to steal, etc. to get the money, whatever it takes.

35. Which of the following best describes why a market system is typically preferred to a command-and-control system?

- A) It is fairer
- B) It is likely to be more efficient**
- C) Both

Often a market economy will achieve a more efficient allocation of resources than a command-and-control economy. A market economy is not designed to achieve fair allocations unless you define fair as the market outcome, in which case it is fair by definition.

36. Is the following statement true or false? Some of the world's largest centrally planned economies are corporations.

- A) True**
- B) False

G.E. and IBM are centrally-planned economics systems, so is Exxon Mobil.

37. If action A makes you better off and me worse off, before the action A is undertaken the allocation is

- A) Efficient
- B) Inefficient
- C) The answer can't be determined from the information provided

So, one has to really understand to get this one correct. If an action is taken and that action makes some better off and some worse off, before the action is taken the allocation might be efficient and it might be inefficient; there is no way to tell without more information.

For example, that society consists of you and me and the current allocation is efficient. I then steal from you making me better off and you worse off.

Or society consists of you and me and the current allocation is inefficient. I then steal from you making me better off and you worse off.

We defined an efficient allocation as one where the **only** way to make one more of society better off **required** that at least one other member is made worse off.

38. When you buy or sell a financial stock of a company, what is **most** important:

- A) Whether the current price is historically high or historically low
- B) Whether you think the stock price will increase or decrease.
- C) What the company produces
- D) A and B

While A) might influence what you will think will happen to the current price, one buys and sells on the basis of only the direction one thinks the stock is going. To do otherwise would not be wealth maximizing.

39. If you are a cocaine addict, your cross-price elasticity for demand for food is likely to be:

- a) inefficient
- b) inelastic
- c) elastic**
- d) none of the above

I would say elastic.

When the price of cocaine goes up, given that you have a highly inelastic demand for cocaine, your expenditures on cocaine will increase, leaving you less to spend on everything else, so your demand for everything else (food, cloths, housing, etc.) will drop a a lot. Your demand for x wrt to the price of coke will be elastic, as long as you are not addicted to x. Coke addicts, by definition are more addicted to coke than they are to things like food, cloths, etc.

40. Which of the following statement(s) about opportunity costs seems most reasonable?

A) Introducing wireless access in our classroom decreased everyone's opportunity cost of coming to class.

B) The opportunity cost of coming to class increased when your constant companion dropped the class.

C) Being able to drop the lowest of the two midterm scores does not affect the opportunity cost of missing a midterm.

C) is incorrect, B is correct. A) not everyone's opportunity cost of coming to class will decrease; it will only decrease for those with wireless devices.