

Name: _____ Date: _____

Econ. 2010, sec. 50 First Midterm

Version 1

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I am posting Version 1 only.

I have added explanatory comments to a few of the questions, typically the ones quite a few people had trouble with, but sometimes just for the hell of it.

Some people need to brush about on the mathematics of graphing functions and the distinction between a movement along the graphed function and a shift in the graphed function. Some of you need to go back to the math basics of graphing.

1. The production possibility frontier illustrates that:
 - A) **if all resources of an economy are being used efficiently, more of one good can be produced only if less of another good is produced.**
 - B) the economy will automatically end up at full employment.
 - C) economic production possibilities have no limit.
 - D) an economy's productive capacity increases proportionally with its population.

2. The existence of government intervention often suggests:
 - A) individual actions have no side effects.
 - B) markets can efficiently manage the allocation of goods.
 - C) **markets may not be able to provide for efficient results all the time.**
 - D) equilibrium will be achieved through this intervention.

3. Consider Michael's demand curve (entry fee on the vertical axis) for sun-bathing trips to the beach at the Boulder Reservoir. The City of Boulder (they own the Boulder Reservoir) raises the entry fee from \$5 to \$7. This will
 - A) cause Michael's demand curve for sun-bathing trips to the "Res" to shift to the left
 - B) **not shift Michael's demand curve for sun-bathing trips to the "Res."**
 - C) cause Michael's demand curve for sun-bathing trips to the "Res" to shift to the right

Michael's demand function is unaffected by the City of Boulder price increase. His quantity consumed will go down simply because price has increases (a movement along his demand curve.). It concerns me that a lot of people got this one wrong. You need to be able to distinguish between shifts in a curve and movements along a curve.

4. Frances has a linear production possibility frontier when she produces tomatoes and green beans. If she uses all of her resources, she can produce 400 bushels of tomatoes or 800 bushels of green beans. Which of the following combinations is *not* efficient for Frances?
- A) **200 bushels of tomatoes and 200 bushels of green beans**
 - B) 800 bushels of green beans and zero bushels of tomatoes
 - C) 200 bushels of tomatoes and 400 bushels of green beans
 - D) 400 bushels of tomatoes and zero bushels of green beans
5. Edward discussed in class estimating damages to the Coeur d'Alene Indian tribe from pollution injuries to the Coeur d'Alene River. The injuries occurred quite a while ago and forced the tribe to leave the river basin and caused them to lose their river-based way of life. Back then, the tribe was quite poor in terms of US dollars and much of what they consumed was not purchased with \$US. Given all this, one would expect that the tribe's willingness-to-pay to prevent the injuries would be similar in magnitude to their willingness-to-accept the injuries.
- A) True
 - B) **False**
6. Eating chocolate bars causes people to be less violent. That said, people eat chocolate because it tastes good and could care less whether eating chocolate makes them more or less violent. Given this, is the following statement true or false? "This side effect of chocolate means that, all else constant, the equilibrium quantity of chocolate consumed in a world with flexible chocolate prices will be too low from an efficiency point of view, and a more efficient amount of chocolate could be produced if the government subsidized the consumption of chocolate."
- A) **True**
 - B) False
- By assumption, the eating of chocolate produces a positive external benefit, so the market, without intervention, will under-produce the commodity. To achieve efficiency in chocolate consumption, consumption of chocolate should be subsidized. Alternatively, if, *ceteris paribus*, eating chocolate bars caused people to be violent, the market, without intervention, would lead to too much chocolate consumed from an efficiency perspective.
7. If an economy is efficient, this means:
- A) prices are the lowest they can possibly be.
 - B) more resources have been used to produce specific consumer goods than producer goods.
 - C) all goods are produced at their maximum quantities.
 - D) **all opportunities to make people better off without making other people worse off have been taken.**

8. The city of Boulder mandates premium chocolate prices be fixed at \$2 per bar. At this price, consumers in Boulder demand 4,000 premium chocolate bars while suppliers are willing to supply 6,000 bars. This example illustrates a government intervention causing a shortage.

- A) True
- B) **False**

9. Ting, a student in class, does not like to ski so would not ski Vail, no matter the cost. Ting's demand function for Vail ski days (dollars on the vertical axis) is

- A) **vertical**
- B) Horizontal

Vertical at a quantity of zero

10. (from Allison) Cindy and John both work at McDonalds. In a period of 1 hour, Cindy can make 30 hamburgers or 40 fries. In the same amount of time John can make 25 hamburgers or 30 fries. Given this information, if the person with the comparative advantage in fries were to specialize and make only fries, how many fries will that person make in 2 hour and 15 minutes?

- A) 100
- B) 80
- C) 110
- D) **90**

So, who has the comparative advantage in fries? When Cindy makes another fry she gives up $30/40=3/4$ of a hamburger. When John makes another fry he gives up $25/30=5/6$ of a hamburger, and $5/6 > 3/4$, so Cindy has the comparative advantage in making fries (the opportunity cost in terms of hamburgers is lower). In 2 hrs and 14 minutes Cindy can make $40+40+10=90$ fries. Thanks Allison.

11. Consider the lecture about mining injuries in the Coeur d'Alene Basin where Edward assumed two fishing sites: the North Fork and the South Fork. Assume, as did Edward, that the two sites are substitutes. Initially assume both sites are uninjured (not polluted) and assume George's travel costs are such that he currently fishes both sites. Now assume the South Fork site is injured/polluted. How will this injury at the South Fork affect the consumer's surplus George get from his trips to the North Fork? Choose the best answer.
- A) **It will increase**
 - B) It will remain the same.
 - C) There is not enough information to tell.
 - D) It will decrease

Injury to the South Fork will shift the demand curves for trips to the North Fork to the right (injury to S.F. has increased the relative quality of the N.F.). If the demand curve for the N.F. shifts to the right the area under this demand function above the cost will increase, assuming cost is not so high that demand is zero at the N.F. both before and after the quality decrease at the S.F. Again, this is a question about shifts in curves.

12. A nuclear arms race between two countries (e.g. India and Pakistan, or the USA and the Soviet Union) is conceptually the same game as the game a divorcing couple plays with respect to whether each will hire a divorce lawyer. The payoff table shows what will happen to each country based on whether it chooses to have nuclear weapons and whether the other country chooses to have nuclear weapons. For example, if both arm (have nuclear weapons), both countries are at risk of nuclear annihilation.

		Decision of Country A	
		Arm	Disarm
Decision of Country B	Arm	A at risk, and B at risk	A at risk and weak while B safe and powerful
	Disarm	A safe and powerful while B at risk and weak	A safe and B safe

Which of the following describes the equilibrium?

- A) Country B has the bomb but country A does not.
- B) **Both countries have the bomb (both arm).**
- C) Country A has the bomb but country B does not.
- D) Neither country has the bomb.

Neither country having the bomb is not an equilibrium. If neither of us have one, I want to get it. Iran would be trying to get the bomb, even if Israel does not have it. And, Israel would be trying to get it even if Iran did not have it. Getting the bomb is like hiring the divorce lawyer. Either way you want one.

13. Katherine has an Econ. 2010 exam tomorrow. However, Elvis P. is playing a free concert this evening and she has been invited (he has come back from the dead). Katherine decides to go to the concert instead of studying for her exam. Which is a correct statement?
- A) Katherine's opportunity cost is her lost study time, which is the time she spends traveling to and from the concert.
 - B) Katherine's opportunity cost is her lost study time, which is the time she spends at the concert.
 - C) Katherine incurs no opportunity cost because the concert is free.
 - D) **Katherine's opportunity cost is her lost study time, which is the time she spends at the concert and traveling to and from the concert.**

14. Assume the following: (1), The existence of the Tea Party makes Republicans happy. (2), Happy people smile. (3), Sarah P. is a person. Sarah P. is not a Republican. And (4), The Tea Party exists. Which of the following predictions follow from these assumptions?
- A) Sarah P. is smiling
 - B) All Republicans are smiling, but Sarah P. is not smiling
 - C) Sarah P. is not smiling
 - D) All Republicans are smiling

Based on the assumptions we do not know whether Sarah P. is smiling. If I ask this question again, I will say “makes **all** Republicans happy”. Of course, in the real world the Tea Party does not make all Republicans happy, but that is neither here nor there; the assumption says it makes them all happy.

15. My demand curve for cigars, per day, is $C=9-3P$, where P is the price of a cigar and C is the number of cigars I buy and smoke. Assume the current price is \$3/cigar. **My consumer surplus from having cigars for sale at \$3/cigar is**
- A) not enough information to answer the question
 - B) \$13.50
 - C) \$2
 - D) **\$0**

I don't buy and consume any cigars, so get no CS from cigars. If $C = 9 - 3P$, then $MWTP = 3 - (1/3)C$, so my wtp for the first cigar is less than the price. There is no areas under the inverse demand function. Draw the curve and check it out.

16. A market for a good requires that the property rights for the good are well defined.
- A) **True**
 - B) False

17. A society's production-possibilities frontier indicates how much of the different goods society wants.
- A) True
 - B) **False**

PPF has nothing to do with wants or preferences.

18. Ceteris Paribus, landlords of apartments that are effectively rent controlled (price ceiling < market price) have more incentive to make repairs and improvements than do landlords of non-rent controlled apartments.
- A) True
 - B) **False**

19. I have a debit card with \$20 left in the account, and, for some reason, the \$20 will disappear from the account by tomorrow morning if it is not spent today. My first choice is to hit the bars tonight and spend the \$20 on drinks. My second choice is to stay home, veg and buy nothing. Is the \$20 I spend tonight on drinks part of the opportunity cost of my going out?
- A) **No**
 - B) Yes

The opportunity cost of going out is staying home and veging. The opportunity cost includes no goods that would be purchased with money. Note that the answer remains No even if the money does not disappear overnight.

20. It costs residents of Boulder a lot more to ski Aspen for a day than it costs residents of Aspen. Which statement is both correct and most informative?
- A) Since they pay more per day to ski Aspen, Boulder residents who ski Aspen must value skiing Aspen more highly than do residents of Aspen.
 - B) Residents of Boulder necessarily get less consumer's surplus from their Aspen ski days than Aspen residents get from their Aspen ski days.
 - C) **If a resident of Boulder and a resident of Aspen both have the same downward sloping demand function for Aspen ski days (\$ on the vertical axis), the Aspen resident will get more consumer's surplus from his Aspen ski days than does the Boulder resident.**
 - D) Given the information provided little can be concluded about how much consumer's surplus an Aspen resident gets from her Aspen ski days compared to how much a Boulder resident gets from her Aspen ski days.

Without knowing their specific demand functions for Vail ski days, we do not do not know whether Aspen or Boulder residents value ski days more highly. In fact it will vary with the specific Aspen resident and the specific Boulder resident. So, D is a correct statement. That said, C is also correct, but more informative.

21. This type of auction features an auctioneer starting at a high price and slowly lowering the price until there is a buyer. Professor Morey auctioned off a chocolate bar in the manner in his lecture about willingness-to-pay. This type of auction is called a
- A) **Dutch auction**
 - B) first-price auction
 - C) second-price auction
 - D) none of the above

It is called a Dutch auction because it is how tulips were auctioned in Holland during the tulip craze in the 17th century http://en.wikipedia.org/wiki/Dutch_auction

At the peak of tulip mania, in February 1637, some single tulip bulbs sold for more than 10 times the annual income of a skilled craftsman.

http://en.wikipedia.org/wiki/Tulip_mania

22. Edward is holding a pointed stick. Edward asks Austin how much he would have to pay Austin for Austin to allow Edward to poke him in the leg with the stick. Note that Austin is a poor T.A. with little wealth. Austin's reply represents his _____
- A) WTP, which is bounded from above by his wealth.
 - B) WTP, which is **not** bounded by his wealth.
 - C) **WTA, which could be a million dollars.**
 - D) WTA, which must be less than his wealth.

23. Consider the demand and supply of Red Bull.

Price	quantity demanded	quantity supplied
\$0.50	10	7
\$0.75	8	8
\$1.00	6	9
\$1.25	4	10
\$1.50	2	11

If the government imposes a price floor of \$1.25 per can of Red Bull, there will be a

- A) No surplus or shortage, the price floor will not bind
- B) a surplus different from 6 cans.
- C) **A surplus of 6 cans**
- D) A shortage of 6 cans

24. The U.S. economy is a pure-market economy since all allocational and distributional decisions are made by the market.

- A) True
- B) **False**

25. Assume that when you graduate you will have three options: a high paying stressful job, a life of relaxed poverty, or graduate school in Economics. Your first choice is the stressful job (you are a good American) and your third choice is graduate school. The opportunity cost of taking the stressful job includes

- A) none of the other three answers is correct.
- B) stress and wealth
- C) **relaxation and poverty**
- D) graduate school

Graduate school is not part of the OC because it is not part of your second choice.

26. (From Darcy in 2011) In Spumoni Colorado, Darcy and Bianca work at the one ice-cream parlor-ACL injuries ended their football careers. They both can make ice cream sundaes or ice-cream cones. Working one hour, Bianca can make 20 sundaes, and working one hour Darcy can make 30 sundaes. Alternatively, in one hour Bianca can make 25 cones whereas Darcy can make 30 cones.
- A) Bianca has a comparative advantage in making cones and an absolute advantage in making sundaes.
 - B) Darcy has both a comparative and absolute advantage in making cones.
 - C) Bianca has a comparative advantage in making sundaes.
 - D) **Darcy has an absolute advantage in making cones and a comparative advantage in making sundaes.**

Darcy has an absolute advantage in making sundaes (Darcy can make 30 sundaes in the time it takes Bianca to make 20). Darcy also has an absolute advantage in cones (she can make 30 in the time it takes Bianca to make 25). When Darcy makes another cone, $30/30=1$ sundaes are lost. When Bianca makes another cone, $20/25=4/5$ sundaes are lost. So, Bianca has a CA in making cones. So Darcy has a CA in sundae production.

27. Millionaire couple Bill and Wanda-Sue Snerdbutt are getting divorced; their marriage is irreconcilable and they hate each other. If they both hire lawyers, the lawyers will get 30% of their wealth and the rest will be split between them 50/50. If one hires a lawyer and the other doesn't, the hired lawyer will get 10% of their wealth and the one with the lawyer will get 70% of the wealth. Which of the following statements is true/
- A) If Wanda Sue says she won't hire a lawyer, it is in Bill's best interest **not** to hire a lawyer.
 - B) Neither Bill nor Wanda Sue can benefit from hiring a lawyer.
 - C) **Bill's best choice is to hire a lawyer, regardless of what Wanda Sue does.**
 - D) None of the above.
28. Consider the statement, "Wolves are valuable and should be saved from extinction because people value their existence." This notion of value is consistent with how economists define value.
- A) **True**
 - B) False

So, most of you got this wrong, which flabbergasted me. How would you have answered if I had asked, "Ice-cream is valued because people value it (get pleasure from it)" As discussed in class and the notes, economic values are something held by individuals, individuals that are members of society (typically people). Total economic value is the sum of the values held by all the individuals in society. That is, there is no economic value if people do not value ice-cream. So, this notion of value is consistent with how economists define value.

29. My demand curve for cigars, per day, is $C=9-3P$, where P is the price of a cigar and C is the number of cigars I buy and smoke. Assume the current price is \$3/cigar. My **total** willingness-to-pay for cigars is
- A) not enough information to answer the question
 - B) \$0
 - C) **\$13.50**
 - D) \$2

That that the MWTP curve is $MWTP=3-(1/3)C$. That is, I would pay $(9 \times 3)/2=13.50$, in total, to smoke three cigars. The current price has nothing to do with “total wtp for cigars.”

30. Society consists of all the bears and Joe (a human); no others are part of society, including the cows. Joe loves to hunt; bears are his favorite prey, followed by cows. Hunting either bears or cows would make Joe better off. No one wants to be hunted, but no one cares if other individuals are hunted. Bears and cows have no interest in hunting. Hunting is currently prohibited. Allowing Joe to hunt cows, but not bears, will be efficiency increasing even though the cows hate the idea.
- A) No
 - B) Maybe
 - C) Yes

Joe hunting cows will make Joe better off. The bears do not care one way or another. The cows are worse off but they are not members of society. So, allowing Joe to hunt is efficiency increasing because one member of society (Joe) is made better off when he is allowed to hunt cows, and no members are made worse off.

31. Which of these two types of auctions is likely to elicit a bid closest to the bidder's willingness-to-pay?
- A) **A second-price auction**
 - B) A first-price auction

As discussed in class: EBay uses a second-price auction. In a second-price auction the highest bidder wins the auction but pays not what she bid but rather what the second-highest bidder bid. A second-price auction, as compared to a first-price auction, gives each bidder a greater incentive to bid their wtp. In class, I simply asserted that this was the case. Briefly explaining: bidding more than your wtp would make you worse off if you win, so you would never do that in a first-price auction, and are unlikely to do it in a second-price auction. If you are in a first-price auction, it is unlikely that you would bid your wtp because if you do, and win, you neither gain nor lose. However, in a second-price auction, you are more likely to bid your wtp because, if you win, you will pay an amount lower than your wtp so get a surplus.

32. In the example in lecture about "damages" to an individual from mining injuries in the Coeur d'Alene basin. Edward said that the U.S. government would use which of the following to measure the damage to an individual from the injury.
- A) Something else.
 - B) **The individual's willingness-to-pay to eliminate the injuries.**
 - C) The individual's share of the cost of cleaning up the injuries and restoring the basin to its pre-injury state.
 - D) The individual's willingness-to-accept the injuries. That is how much she would have to be paid to accept the injuries.
33. (from Joelle) Winnie and Eeyore are best friends. They have 3 hours each to collect as much honey as they can, and to find as many missing tails as they can. They decided that they should work together. Winnie can collect 3 jars of honey per hour and can find 8 tails per hour. Eeyore can collect 1.5 jars of honey per hour and find 4 tails per hour. Winnie knows that he is the best so he decided he should devote all of his time to collecting honey and Eeyore should spend all of his time collecting tails. Eeyore is smarter than Winnie and thinks that since Winnie can find the most tails, Winnie should devote all his time to finding tails while he, himself, collects honey.
- Who is right and actually has a comparative advantage in collecting honey?
- A) Eeyore
 - B) **Neither of them**
 - C) Winnie

Who has the comparative advantage in honey collecting? When Eeyore collects another jar of honey he finds $4/(3/2) = 8/3$ fewer tails. When Winnie collects another jar of honey, he finds $8/3$ fewer tails. No one has a comparative advantage. Thanks Joelle.

Use the following to answer question 34:

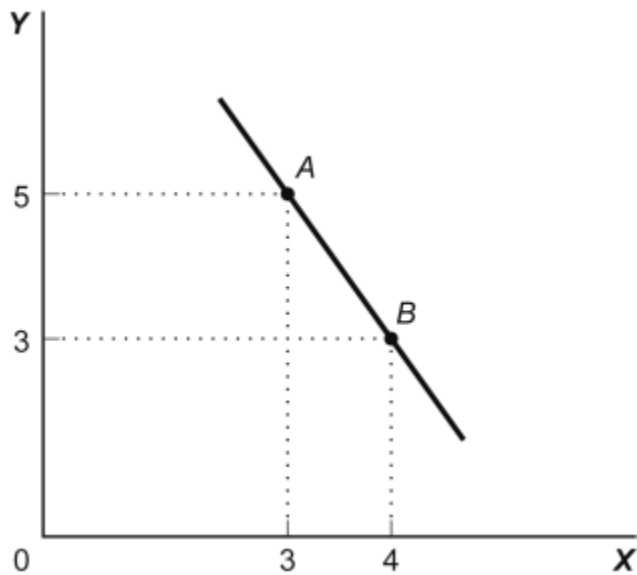
Table: Production of Good Z and Good X in Urbanville

Combination	Good Z	Good X
A	0	75
B	5	70
C	10	60
D	15	45
E	20	25
F	25	0

34. (Table: Production of Good Z and Good X in Urbanville) If Urbanville is currently producing at Combination F, what is the opportunity cost of a move to Combination E?
- A) 25X
 - B) 0X
 - C) 20Z
 - D) 5Z

Use the following to answer question 35:

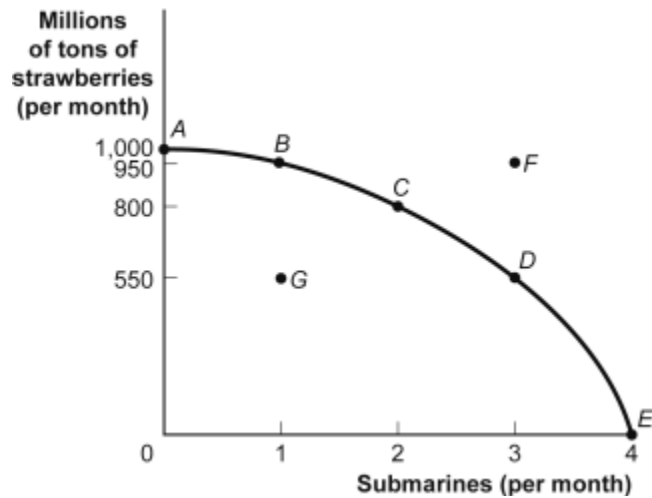
Figure: Slope



35. (Figure: Slope) In the graph, the slope of the line between points A and B is:
- A) +2.
 - B) +8.
 - C) -8.
 - D) -2.

Use the following to answer question 36:

Figure: Strawberries and Submarines



36. (Figure: Strawberries and Submarines) As the economy moves from point A toward, say, point D, it will find that the opportunity cost of each additional submarine:
- A) **rises.**
 - B) remains unchanged.
 - C) doubles.
 - D) falls.

Each additional submarine produced requires a reduction in the amount of strawberries produced and the amount of strawberries lost increases with each additional submarine.

37. Jorge, the famous Argentinian economist, builds a model/theory to predict the probability that an individual has a significant other who is a male. He makes assumptions that imply this probability is a function of only hair color and body mass index. The exogenous variable(s) in his model are _____ and the endogenous variable(s) in his model are _____.
- A) the probability of having a significant male other | body mass index, hair color, and gender
 - B) body mass index, hair color, and gender | the probability of having a significant male other
 - C) the probability of having a significant male other | body mass index and hair color
 - D) **body mass index and hair color | the probability of having a significant male other**

A lot of people need to better understand models, variables and the distinction between endogenous and exogenous variables. Economics is the building and analysis of models. The question says the model is built to predict “the probability that an individual has a significant other

who is male”, so “the probability of having a significant other who is male” is an endogenous variable—it varies between zero and one, and is what the model is trying to explain. The first sentence suggests it is the only endogenous variable with the words, “builds a model to predict” and lists only one thing. So, the answer must be either B or D. In addition, the endogenous variable is assumed a function of **only** BMI and hair color, so these are likely exogenous variables. Gender was never mention. Don’t implicitly add assumptions to a model.

38. Consider the demand and supply curves for low-skilled workers with the wage rate on the vertical axis. Now assume, as in most developed countries (including the U.S.) that the government has imposed a binding "minimum wage." Choose the statement about the effect of the minimum wage that is both correct and most informative.
- A) From an efficiency perspective, too few of the low-skilled will work, and there will be firms who want to hire the low skilled at the minimum wage but cannot.
 - B) **From an efficiency perspective, too few of the low skilled will work.**
 - C) All of the low skilled will be better off.
 - D) All of the low skilled will be better off, but an inefficient amount of the low-skilled will work.

A minimum wage is a price floor on a price, the price/wage of low-skilled labor. So, a minimum wage will cause supply to exceed demand. The number of LS workers working at the minimum wage will be less than the equilibrium amount, and less than the efficiency amount. That is, some LS workers will lose their jobs because of the imposition of the minimum wage. LS workers who keep their jobs will be better off; those that lose their jobs will be worse off. Draw the graph. Every firm who wants to buy at the minimum wage can and will.

39. There are only three types of individuals in the world: Joe (a human) and a bunch of cats and mice. Joe likes to hunt cats and only cats, cats like to hunt mice and only mice, and mice like to hunt Joe and only Joe. No one likes being hunted but no one cares if another individual is being hunted. Currently there is no hunting. Which of the following statements is correct?
- A) **If Joe is not a member of society allowing hunting by the mice will increase efficiency.**
 - B) Allowing hunting by the cats will necessarily increase efficiency.
 - C) Allowing hunting by Joe will necessarily increase efficiency

Note the word “necessarily” in B) and C). It means “for sure.”

40. Which of the following allocations are primarily determined by "command and control" rather than by market forces?
- I. how resources and goods are allocated within a household
 - II. how resources are allocated between killing terrorists and educating children
 - III. who get the BMWs
 - IV. how resources are allocated within Google
 - V. how much of society's resources are allocated to producing CoCo Puff cereal vs. Captain Crunch
- A) **I, II, and IV**
 B) I, II and III
 C) II, III and IV
 D) II and V
41. Our text, Krugman and Wells, costs \$100. Martha's willingness-to-pay for one copy of the text is \$110, and zero for additional copies. So, her consumer surplus for having the text available for \$100 is \$10.
- A) **True**
 B) False
42. A nuclear arms race between two countries (e.g. India and Pakistan, or the USA and the Soviet Union) is conceptually the same game as the game a divorcing couple plays with respect to whether each will hire a divorce lawyer. The payoff table shows what will happen to each country based on whether it chooses to have nuclear weapons and whether the other country chooses to have nuclear weapons. For example, if both arm (have nuclear weapons), both countries are at risk of nuclear annihilation.

		Decision of Country A	
		Arm	Disarm
Decision of Country B	Arm	A at risk, and B at risk	A at risk and weak while B safe and powerful
	Disarm	A safe and powerful while B at risk and weak	A safe and B safe

The equilibrium of this game is efficient?

- A) True
 B) **False**

The equilibrium is arm/arm. It is not efficient because at no arm/no arm both countries are better off than they are at the equilibrium.

Answer Key

1. A
2. C
3. B
4. A
5. B
6. A
7. D
8. B
9. A
10. D
11. A
12. B
13. D
14. D
15. D
16. A
17. B
18. B
19. A
20. C
21. A
22. C
23. C
24. B
25. C

26. D
27. C
28. A
29. C
30. C
31. A
32. B
33. B
34. D
35. D
36. A
37. D
38. B
39. A
40. A
41. A
42. B