

YOUR NAME \_\_\_\_\_ Assigned Seat \_\_\_\_\_

## **ECO201: PRINCIPLES OF MICROECONOMICS**

### **FIRST MIDTERM EXAMINATION**

**Prof. Bill Even**

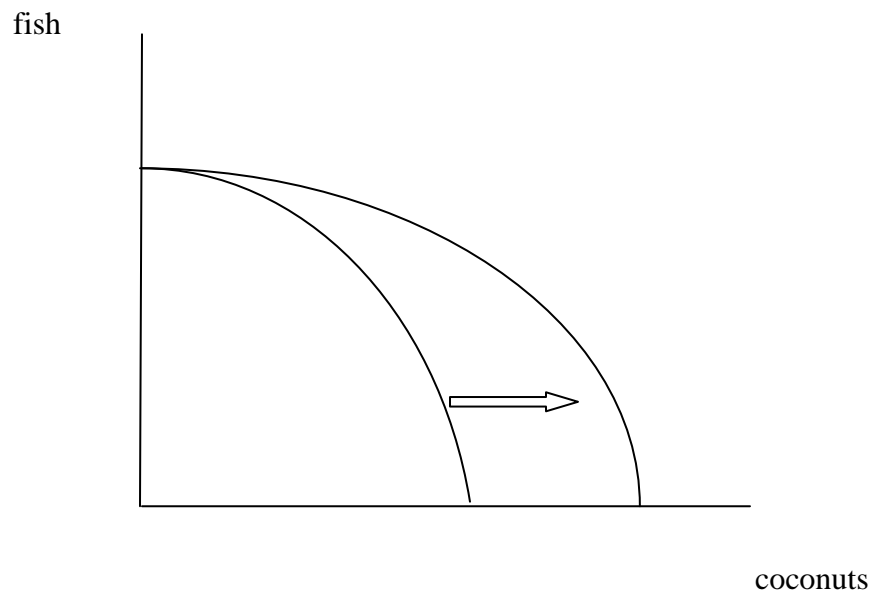
**October 8, 2009**

#### **FORM 2**

#### Directions

1. Fill in your scantron with your unique-id and the form number listed on this page. Proper completion of this step of the directions is worth the equivalent of one question.
2. There are 42 multiple choice questions. All answers should be recorded on the scantron sheet. No credit will be given for answers placed elsewhere. Record your answers on the exam as well because this will be the record of your answers which you can use to determine which questions you got right or wrong on the exam.
3. A calculator is allowed. Cell phones may not be used for calculators.
4. You have until 10:50 to finish the exam and complete the scantron. **Additional time may be purchased at a price of 5 percentage points per minute.**

- 1) If an economy is operating on its PPF, we know that:
- it has achieved productive efficiency.
  - it has achieved allocative efficiency.
  - both a and b.
  - none of the above.



2. Which of the following would cause the PPF to shift to right as illustrated in the diagram above?
- discovery of a better way to catch fish.
  - acquisition of a ladder that facilitates collection of coconuts.
  - more workers.
  - all of the above.

- 3) Suppose there is a sharp decline in the price of natural gas that leads to an increase in the equilibrium price and quantity of wood burning stoves. This would suggest that natural gas and wood burning stoves are:
- complements in consumption
  - complements in production
  - substitutes in consumption
  - substitutes in production
- 4) If natural gas is a complement in consumption to a gas furnace, an increase in the supply of natural gas should cause the equilibrium price of gas furnaces to \_\_\_\_\_ and the equilibrium quantity to \_\_\_\_\_.
- rise; rise.
  - rise; fall
  - fall; fall.
  - fall; rise.
- 5) Suppose that brand x detergent is an inferior good. This would mean that during a recession when people's incomes are falling,
- the supply of brand x would increase
  - the supply of brand x would decrease
  - the demand for brand x would increase
  - the demand for brand x would decrease.
- 6) During a recession people's incomes are falling and it is not uncommon for prices to fall. However, we should expect that, other things being the same, prices would fall most for:
- normal goods
  - inferior goods
  - luxury goods
  - efficient goods
- 7) When a sawmill produces lumber, sawdust is also created. Because of this relationship, we should expect that any increase in the demand for lumber should cause the equilibrium price of sawdust to \_\_\_\_\_ and the equilibrium quantity of sawdust to \_\_\_\_\_.
- rise; rise.
  - rise; fall.
  - fall; fall.
  - fall; rise.
- 8) Suppose that over the next year the equilibrium price of batteries rises while the equilibrium quantity falls. These two simultaneous events could be explained by:
- an increase in consumer income if batteries are a normal good.
  - an improvement in the technology for producing batteries.
  - an increase in the price of materials used to produce batteries.
  - an increase in the price of a complement in consumption for batteries.

To answer the next 5 questions, suppose there is a small island economy with 30 Redhawks and 20 Bobcats. In a given day, a Redhawk can produce either 10 shirts or gather 5 hats. A Bobcat can produce either 9 shirts or 3 hats.

- 9) The absolute advantage in shirts is held by the \_\_\_\_\_ and the absolute advantage in hats is held by the \_\_\_\_\_.
- Redhawks; Redhawks.
  - Redhawks; Bobcats.
  - Bobcats; Bobcats.
  - Bobcats; Redhawks.
- 10) The comparative advantage in shirts is held by the \_\_\_\_\_ and the comparative advantage in hats is held by the \_\_\_\_\_.
- Redhawks; Redhawks.
  - Redhawks; Bobcats.
  - Bobcats; Bobcats.
  - Bobcats; Redhawks.
- 11) If the economy produces 200 shirts per day, what is the maximum number of hats it can produce in a day?
- 100
  - 140
  - 180
  - none of the above
12. Suppose the economy is operating on its production possibilities frontier and producing 200 shirts per day. If it increases shirt production by 10, the opportunity cost of the extra 10 shirts will be \_\_\_\_\_ hats.
- 3.33
  - 5
  - 9
  - none of the above.
- 13) If the economy is organized efficiently, the opportunity cost of an additional hat is
- 2 shirts until hat production reaches 300, at which point the opportunity cost rises to 3 shirts.
  - 2 shirts until hat production reaches 150, at which point the opportunity cost rises to 3 shirts.
  - .33 shirts until hat production reaches 180, at which point the opportunity cost rises to .5 shirts.
  - none of the above

14) If two commodities have a positive cross price elasticity of demand, this suggests that the products are:

- a. substitutes in production.
- b. complements in production
- c. substitutes in consumption
- d. complements in consumption.

15) It is more expensive to store fresh tuna than canned tuna. As a consequence, we should expect that, compared to canned tuna, the supply for fresh tuna is

- a. more elastic and a change in demand will have a greater effect on price.
- b. more inelastic and a change in demand will have a greater effect on price.
- c. more elastic and a change in demand will have a smaller effect on price.
- d. more inelastic and a change in demand will have a smaller effect on price.

16) If the elasticity of demand for parking passes at Miami is 1.7, if the price of parking passes was reduced by 10%, the number of passes sold would increase by:

- a. 1.7%
- b. 17%
- c. 5.9%
- d. 59%

17) If the elasticity of demand for parking passes at Miami is 1.7, if the price of parking passes was reduced by 10%, the total revenue Miami collects from the sale of parking passes would:

- a. rise by 7%
- b. rise by 3%
- c. fall by 7%
- d. fall by 3%

18) If the demand curve for a product is linear, the price elasticity of demand will be:

- a. the same at every price
- b. inelastic at prices corresponding to points below the midpoint of the demand curve, and elastic at prices above the midpoint.
- c. elastic at prices corresponding to points below the midpoint of the demand curve, and inelastic at prices above the midpoint.
- d. elastic if the slope of the demand curve is less than -1 and inelastic if the slope of the demand curve is greater than -1.

19) If a firm lowers its price, total revenue will:

- a. always rise.
- b. rise only if demand is inelastic.
- c. rise only if demand is elastic.
- d. rise only if demand is unit elastic.

20) According to estimates from the International Monetary Fund, in 2008, average income per capita was \$44,440 in the U.S. and \$3,259 in China. This should imply that the demand for a product like Coca-Cola will be more \_\_\_\_\_ in China and a change in price will have a \_\_\_\_\_ effect on sales (in percentage terms) in China.

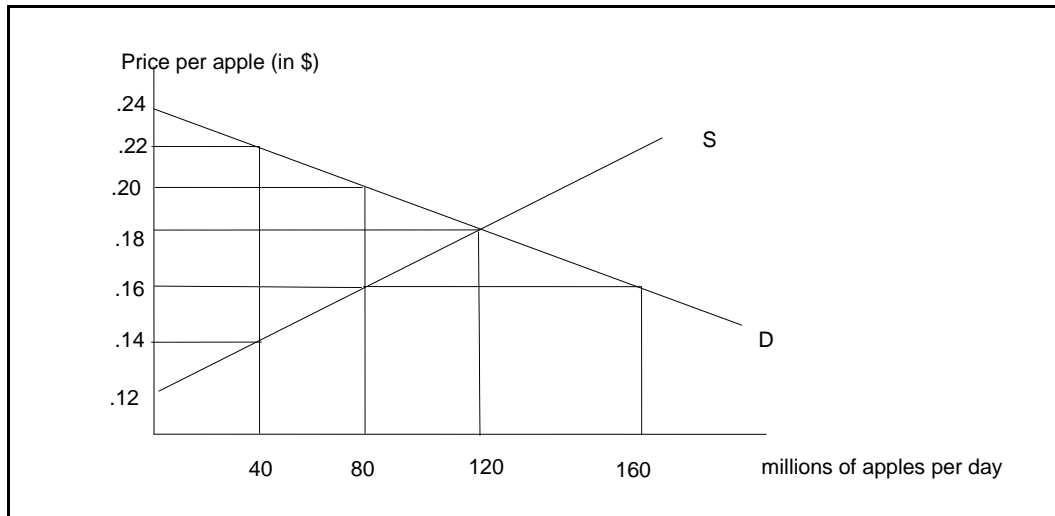
- a. elastic; larger.
- b. elastic; smaller.
- c. inelastic; larger.
- d. inelastic; smaller.

- 21) Assuming no externalities, we know that an economy is producing more than the allocatively efficient amount of a good if and only if:
- marginal cost exceeds marginal benefit
  - marginal cost is less than marginal benefit
  - marginal benefit equals the price
  - marginal cost equals the price
- 22) Suppose you have a bike that you are willing to sell for anything at or above \$50. A buyer is willing to pay as much as \$90 for the bike. You negotiate a price of \$75. Based on this information, we can conclude that
- consumer's surplus on the bike sale is \$40
  - producer's surplus on the bike sale is \$25
  - if the final price negotiated rises from \$75 to \$76, consumer surplus rises \$1 and producer surplus falls by \$1.
  - all of the above.

For the next two questions, note the following abbreviations: SMB=social marginal benefit; SMC=social marginal cost; PMB=private marginal benefit; PMC=private marginal cost.

- 23) Regardless of whether there are externalities, in a competitive market, the supply curve is the same as \_\_\_\_\_ and the demand curve is the same as \_\_\_\_\_.
- SMB; SMC
  - PMB; PMC
  - SMC; SMB
  - PMC; PMB
- 24) Suppose that whenever a firm produces electricity with a coal powered generator, pollutants are emitted that add to global warming. If government does not intervene in the market for coal-powered electricity, we should expect to find that at the market outcome
- $PMB > PMC$  and the market will produce less than the allocatively efficient amount of electricity.
  - $PMC > PMB$  and the market will produce more than the allocatively efficient amount of electricity.
  - $SMB > SMC$  and the market will produce more than the allocatively efficient amount of electricity.
  - $SMC > SMB$  and the market will produce more than the allocatively efficient amount of electricity.

To answer the next 3 questions, consider the following hypothetical supply and demand curves for apples



25) What is the elasticity of demand for apples over the price range of \$.16 to \$.18 per apple?

- a. 0.41
- b. 0.82
- c. 2.43
- d. 3.17

26) At the equilibrium price, what is the value of **consumer's** surplus?

- a. \$2.6 million
- b. \$3.6 million
- c. \$5.4 million
- d. \$7.2 million

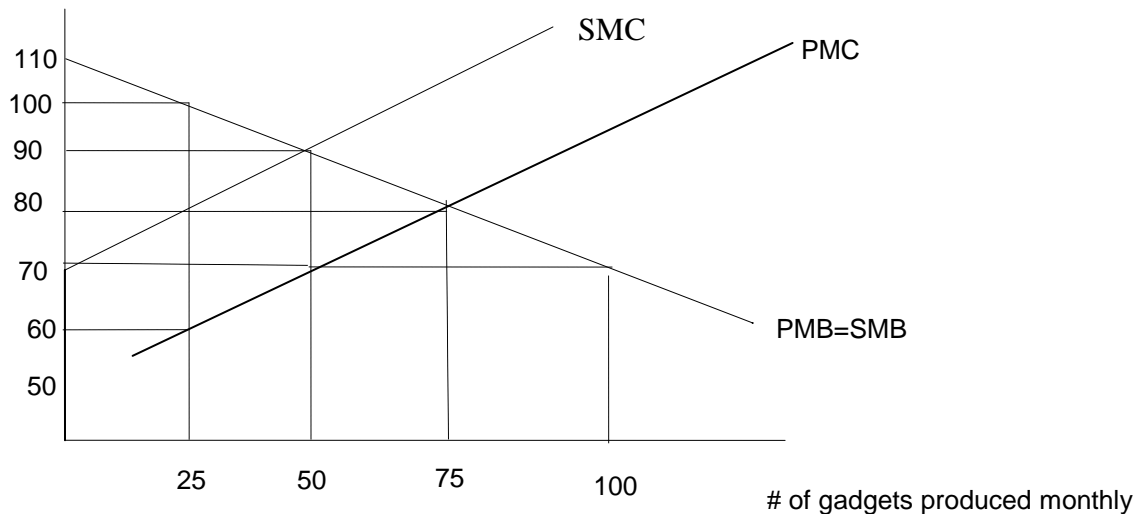
27) At the equilibrium price, what is the value of **producer's** surplus?

- a. \$2.6 million
- b. \$3.6 million
- c. \$5.4 million
- d. \$7.2 million

28) If the government wants to achieve allocative efficiency in markets, which of the following types of commodities would be best to tax?

- a. vaccinations for contagious diseases because it helps prevent others from getting disease.
- b. airport construction given the noise pollution that it generates for those near the airport.
- c. oil exploration because of the high price of oil
- d. food because it is a necessity for anyone to live.

To answer the next two questions, refer to the diagram below describing the market for gadgets.



29) Based on the diagram above, there must be \_\_\_\_\_ externalities in the production or consumption of gadgets.

- no
- positive
- negative.

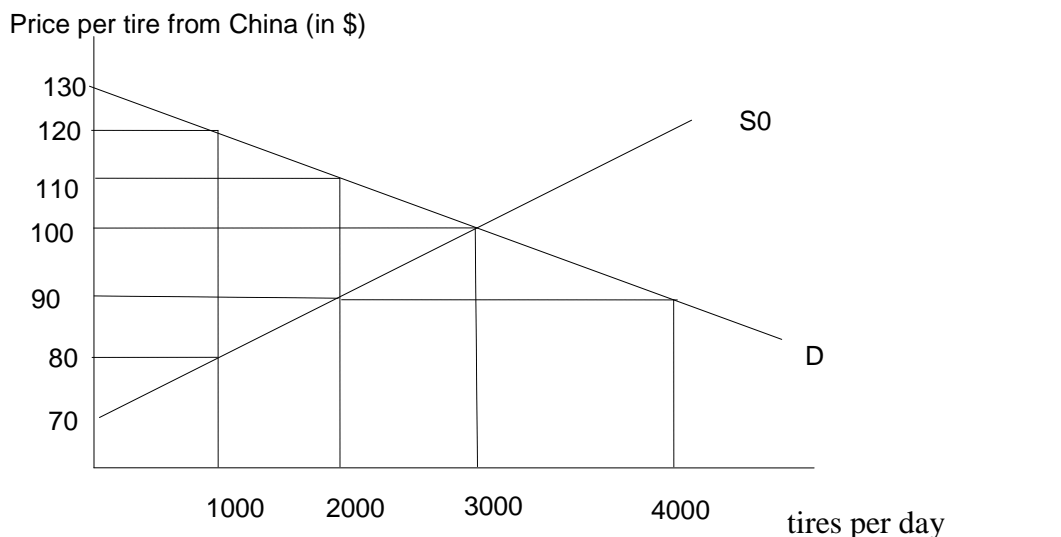
30) Based on the diagram above, the market could be moved to the socially efficient outcome with a (*subsidy, tax*) of \_\_\_\_\_.

- subsidy; \$20
- subsidy; \$10
- tax; \$10
- tax; \$20

31) Based on the diagram above, market equilibrium would generate (more, less) than the socially efficient amount to be produced and a deadweight loss of \_\_\_\_\_.

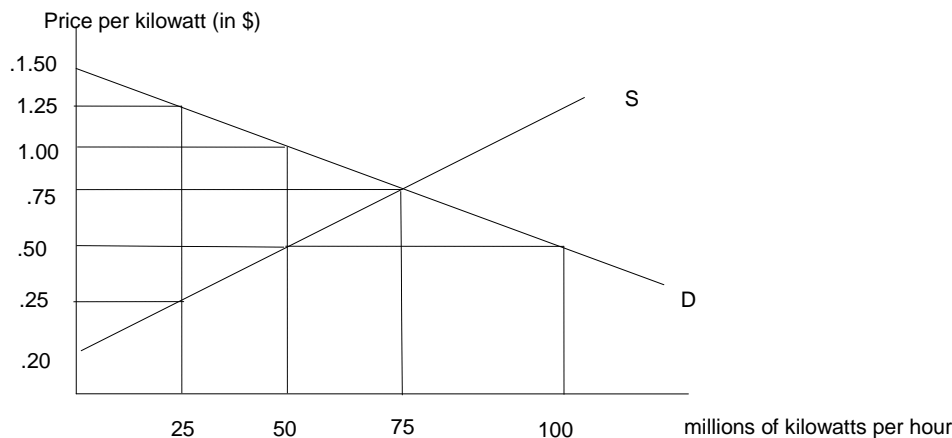
- more; \$500
- less; \$500
- less; \$250
- more; \$250

Recently the U.S. introduced a tax on imported tires from China because of charges that the Chinese were violating certain trade agreements. To answer the questions below, assume that the market for Chinese tires in the U.S. before the tax is imposed is described in the diagram below. Assume that the tax is \$20 per tire. (Actually, the tax is 35%, but we will assume \$20 for simplicity).



To examine the effect of the \$20 tax, you should draw the new supply and/or demand curves on top of the diagram above. Be careful to account for the fact that the tax is \$20 when determining where to draw the new curve.

- 32) If the \$20 tax is imposed on the sellers of the Chinese tires,
- the supply curve would shift upward by \$20 and the price to consumers would rise by \$20.
  - the supply curve would shift upward by \$20 and the price to consumers would rise by less than \$20.
  - the demand curve would shift downward by \$20 and the price to consumers would rise by \$20.
  - none of the above.
- 33) The consumer's share of this \$20 tax will be \_\_\_\_ and the producer's share will be \_\_\_\_.
- \$20; \$0
  - \$10; \$10
  - \$0; \$20
  - \$5; \$15
- 34) How much tax revenue should the U.S. expect from the \$20 tire tax?
- \$60,000 per day
  - \$40,000 per day
  - less than \$40,000 per day.
  - more than \$60,000 per day.



**Suppose there are no positive or negative externalities associated with electricity and the government imposes a price ceiling at \$.50 per kilowatt.**

35) This price ceiling will result in:

- a surplus of 50 million kilowatts per hour
- a shortage of 50 million kilowatts per hour.
- a shortage of 25 million kilowatts per hour.
- neither a shortage or a surplus since the ceiling won't be binding.

36) Compared to the equilibrium price and assuming no search costs with the \$.50 price ceiling **producers** would be

- worse off by \$12.500 million
- worse off by \$15.625 million
- worse off by \$21.875 million
- none of the above.

37) Compared to the equilibrium price and assuming no search costs, with the \$.50 price ceiling **consumers** would be

- better off by \$12.500 million
- better off by \$9.375 million
- worse off by \$12.500 million
- worse off by \$9.375 million

38) With the price ceiling of \$.50 per gallon and assuming no search costs, there would be a deadweight loss of

- \$12.5 million
- \$6.25 million
- \$3.125 million
- \$0

39) The tax revenue generated by the tire tax will be greater if there are \_\_\_\_ substitutes for imported tires since this will make the demand for the imported tires more \_\_\_\_.

- a. many; inelastic
- b. many; elastic
- c. few; inelastic
- d. few; elastic.

40) If there is a \$20 tax imposed on imported tires,

- a. consumers surplus will decrease for people who bought imported tires.
- b. producers surplus will decrease for people who sold imported tires.
- c. the losses to consumers and producers will exceed the tax revenue generated
- d. all of the above.

41) The federal government has considered imposing a tax on “sweets” to help reduce obesity in the U.S. This tax would reduce the consumption of sweets and obesity more if the demand for sweets is more \_\_\_\_\_ or supply is more \_\_\_\_\_.

- a. inelastic; inelastic.
- b. inelastic; elastic.
- c. elastic; inelastic
- d. elastic; elastic;

42) Since passage of the Agricultural Adjustment Act of 1993, only farmers who own or lease a production quota are legally allowed to grow peanuts for human consumption in the U.S. Based upon our analysis of how quotas work, **elimination of the peanut quota** would:

- a. cause peanut consumers in the U.S. to definitely be worse off
- b. could cause peanut producers in the U.S. to be better off.
- c. a deadweight loss associated with peanut production.
- d. all of the above.