

**Midterm 2**  
**60 minutes**  
**Econ 1101: Principles of Microeconomics**  
**November 15, 2010**

**Exam Form A**

Name \_\_\_\_\_ Student ID number \_\_\_\_\_

Signature \_\_\_\_\_

Teaching Assistant \_\_\_\_\_ Section \_\_\_\_\_

The answer form (the bubble sheet) **and** this question form will both be collected at the end of the exam. Fill in the information above and then on the answer form, please write the following information

- **name,**
- **student ID number,**
- **recitation number**
- **Form A** (see the bottom part of the answer sheet for this bubble.)

**Fill in the corresponding bubbles. Sign your name on the answer form.**

**You will be awarded 2 bonus points for filling the correct name and ID on the answer form.**

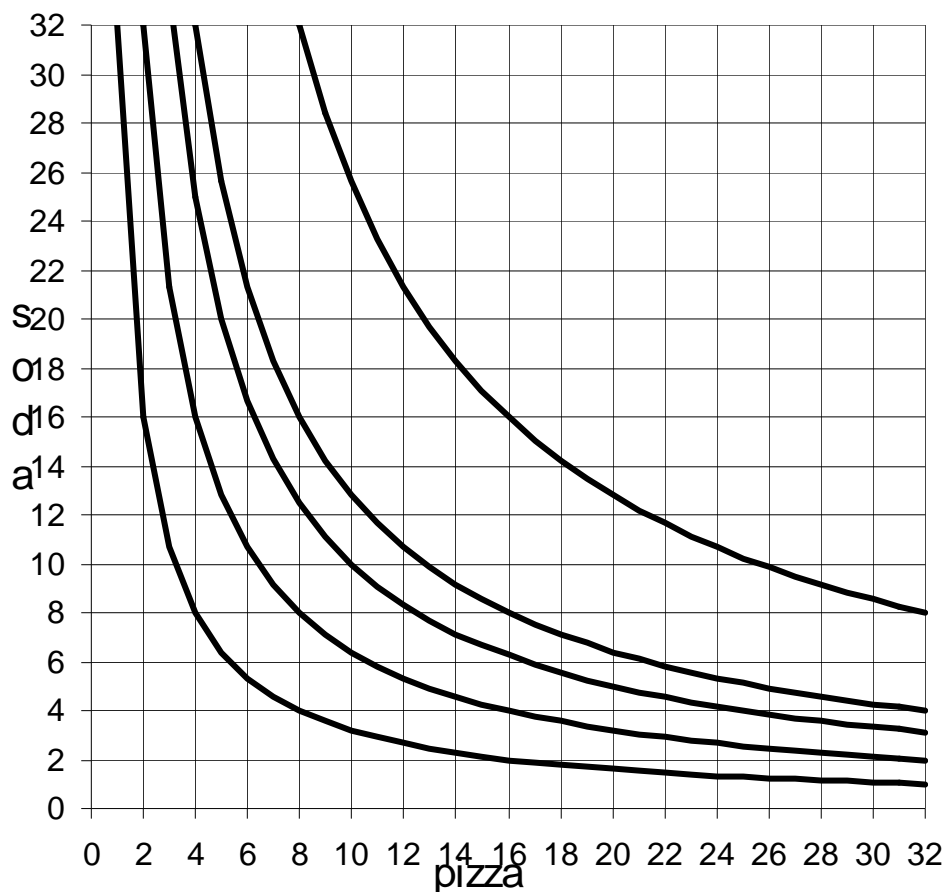
There are 35 questions. All questions are multiple choice. Each question has a single answer. Select the **best** answer for each question and fill in the corresponding bubble on the answer sheet.

Use a **Number 2** pencil to fill in your answer.

You are not permitted to use calculators or to open books or notes.

1. For question 1, please fill in (a) on your bubble sheet, as this is exam form A. (We are using this question to verify the exam form.)
  - a) Form A
  
2. When trade is based on \_\_\_\_\_, trading partners must be \_\_\_\_\_ in terms of their production possibility frontiers, in order for there to be gains from trade. (Fill in the blanks.)
  - a) comparative advantage, the same
  - b) comparative advantage, different
  - c) increasing returns, different
  - d) none of the above
  
3. At present, the United States uses a system of quotas to limit the amount of sugar imported into the country. Which of the following statements is most likely true?
  - a) The quotas are probably the result of lobbying from U.S. consumers of sugar. The quotas increase consumer surplus for the United States, reduce producer surplus for the United States, and harm foreign sugar producers.
  - b) The quotas are probably the result of lobbying from U.S. producers of sugar. The quotas increase producer surplus for the United States and reduce consumer surplus for the United States.
  - c) The quotas are probably the result of lobbying from foreign producers of sugar. The quotas reduce producer surplus for the United States, increase consumer surplus for the United States, and benefit foreign sugar producers.
  - d) U.S. lawmakers did not need to be lobbied to impose the quotas because total surplus for the United States is higher with the quotas than without them.

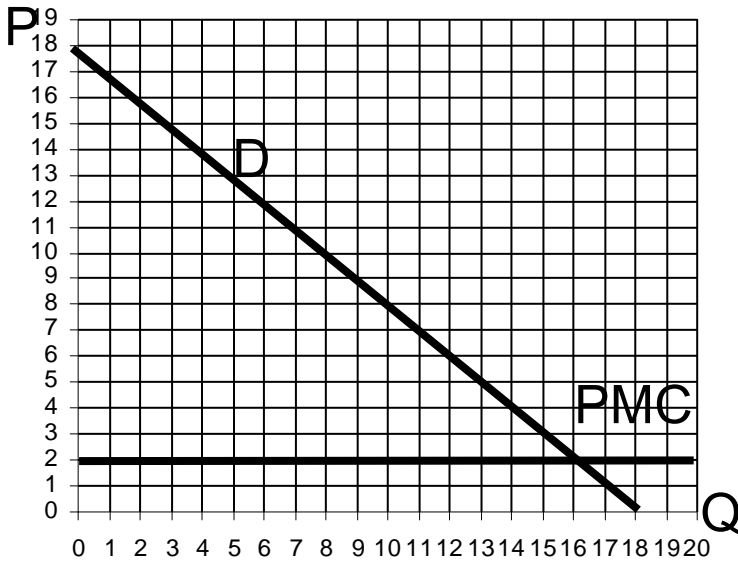
The questions on this page and the next page refer to the graph below. Sparty consumes pizza and soda and the graph illustrates his indifference curves.



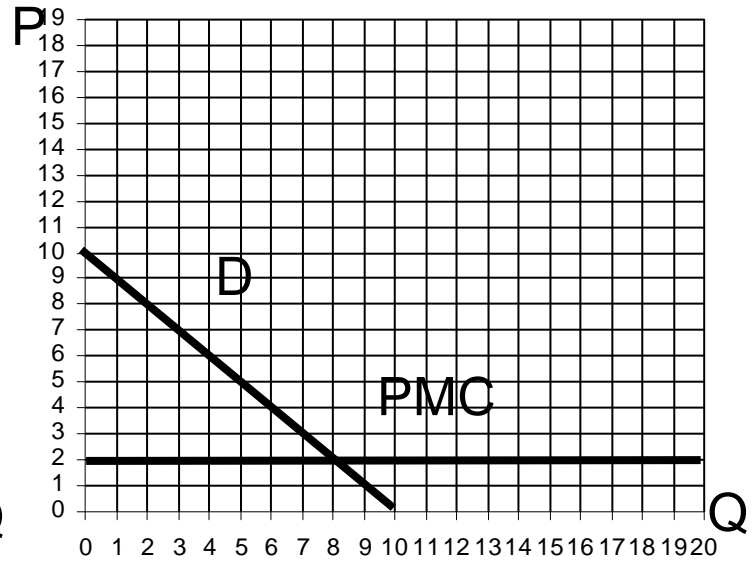
4. From Sparty's indifference curves, we can determine that Sparty is indifferent between having (16 pizzas, 4 sodas) and
  - a) (8 pizzas, 6 sodas)
  - b) (16 pizzas, 16 sodas)
  - c) (6 pizzas, 14 sodas)
  - d) (18 pizzas, 6 sodas)
  - e) (8 pizzas, 8 sodas)
  
5. Suppose Sparty has an income of \$64, that  $P^{\text{Pizza}} = \$8$ , and that  $P^{\text{Soda}} = \$4$ . Draw Sparty's budget constraint in the above figure. From this we can see that the opportunity cost of one more slice of pizza equals
  - a)  $\frac{1}{2}$  soda
  - b) 1 soda
  - c) 1.5 sodas
  - d) 2 sodas
  - e) 3 sodas

6. At this income and prices of soda and pizza, the optimal consumption bundle for Sparty is
- (4 pizza, 8 sodas)
  - (8 pizza, 0 sodas)
  - (4 pizza, 4 sodas)
  - (2 pizza, 12 sodas)
  - (8 pizza, 8 sodas)
7. Suppose the price of pizza falls to  $P^{\text{Pizza}}=\$2$ . Draw the new budget constraint. . The fall in the price of pizza causes the quantity demanded of pizza to increase by how many units?
- 6
  - 14
  - 3
  - 18
  - 12
8. The substitution effect of the price change increases the demand for pizza by how many units?
- 4
  - 12
  - 0
  - 14
  - 10
9. Go back to the original case where Sparty has an income of \$64,  $P^{\text{Pizza}}=\$8$ , and  $P^{\text{Soda}}=\$4$ . Now suppose that income doubles to \$128. Draw the new budget constraint and determine the new optimal consumption bundle. From this we can see that
- Soda is a normal good and pizza is inferior
  - Soda is an inferior good and pizza is a normal good
  - Soda and pizza are perfect substitutes.
  - Soda and pizza are both normal goods.
  - Soda is a Giffen good and pizza is a luxury good.
10. Suppose the price of an inferior good falls. The impact of the price change on the quantity demanded is \_\_\_\_\_ through the substitution effect and \_\_\_\_\_ through the income effect. (Fill in the blanks.)
- positive, positive
  - positive, negative
  - negative, positive
  - negative, negative

## Rich Country



## Poor Country



The next six questions refer to the above graphs and the following scenario:

There are two countries, the rich country and the poor country. The graphs above illustrate the demand for oil in both countries. Suppose the private marginal cost for oil is \$2 a gallon and that there is perfect competition in the oil market. Then with no government intervention, the market price of oil is \$2 a gallon. You can see in the above graphs that in this case, the rich country consumes 16 gallons and the poor country 8 gallons. Total world consumption is then 24 gallons in the free market allocation. (There are no other countries.)

Suppose science shows world consumption needs to be cut in half, from 24 to 12 gallons, to avoid a catastrophe. The rest of these questions discuss various policies that will attain this goal.

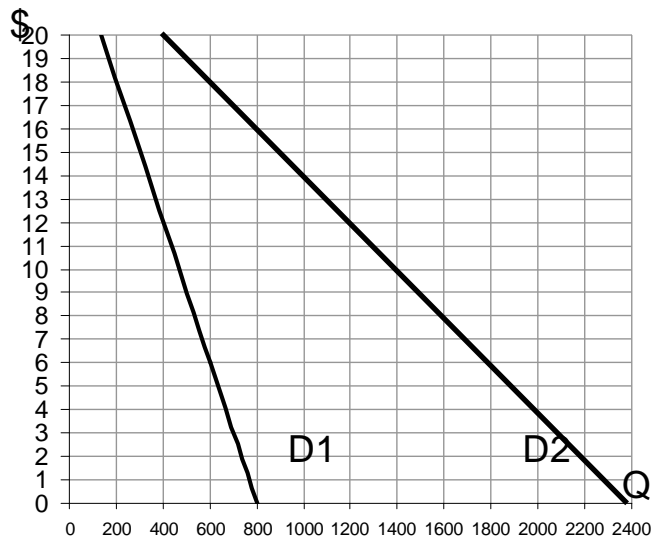
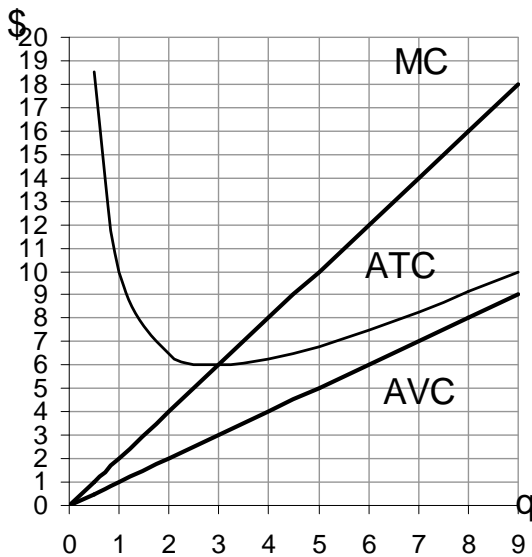
11. Suppose the two countries agree to each cut consumption in half and each country sets a tax on oil to do it. What does the tax on oil in the poor country have to be, to cut consumption from 8 to 4 gallons in the poor country?
  - a) 6
  - b) 2
  - c) 8
  - d) 4
  - e) 10
  
12. What does the tax on oil in the rich country have to be, to cut consumption from 16 to 8 gallons in the rich country?
  - a) 8
  - b) 4
  - c) 12
  - d) 6
  - e) 10

13. Calculate the change in rich country **total surplus** from the tax, assuming the rich country keeps the tax revenue collected from the tax, and not taking into account the benefit of avoiding the environmental catastrophe. This change equals (minus)
- a) 24
  - b) 12
  - c) 48
  - d) 64
  - e) 32
14. Suppose that instead of each country setting their own tax rates, the same tax on oil is imposed in both countries. What does this same tax have to be in order that total world consumption of oil decrease from 24 to 12 gallons?
- a) 6
  - b) 4
  - c) 8
  - d) 12
  - e) 10
15. Suppose that instead of taxes, a cap and trade system is set up. Total world consumption of oil is capped at 12, and 8 tradable allowances are given to consumers in the rich country, while 4 tradable allowances are given to consumers in the poor country. The equilibrium price of one allowance will be
- a) 10
  - b) 8
  - c) 4
  - d) 6
  - e) 2
16. The number of allowances the poor country will sell to the rich country equals
- a) 4
  - b) 0
  - c) 2
  - d) 1
  - e) 3
17. Which of the following statements regarding “cap and trade” policies is **not** true?
- a) The policy is more politically feasible than a carbon tax because industry groups that might block a tax can be potentially bought off by being given allowances.
  - b) The European Union has already adopted such a policy to limit carbon.
  - c) The policy has been used in the United States to address the problem of sulphur dioxide pollution.
  - d) It is a kind of “command and control” policy where government regulators make the decision of how a given cutback in carbon production will be achieved.

18. Under what assumptions will the long-run supply curve for the widget industry be perfectly elastic (i.e. perfectly flat)?

- (i) The same technology is available to all firms.
  - (ii) The average total cost is falling (economies of scale) over the entire range of Q.
  - (iii) There are no barriers to entry in the industry.
  - (iv) Input prices do not change as the industry expands
  - (v) The long-run demand curve is perfectly inelastic.
- a) (i) and (ii)
  - b) (iii) and (iv)
  - c) (i), (iii), and (iv)
  - d) (ii), (iii), and (v)
  - e) (i), (ii), (iv), and (v)

Suppose the required assumptions from above hold for the widget industry. Each widget firm has the cost structure illustrated in the left graph below. The right graph illustrates two different possible demand curves, D1 and D2.



19. Fixed cost equals

- a) Not enough information to tell.
- b) 6
- c) 3
- d) 12
- e) 9

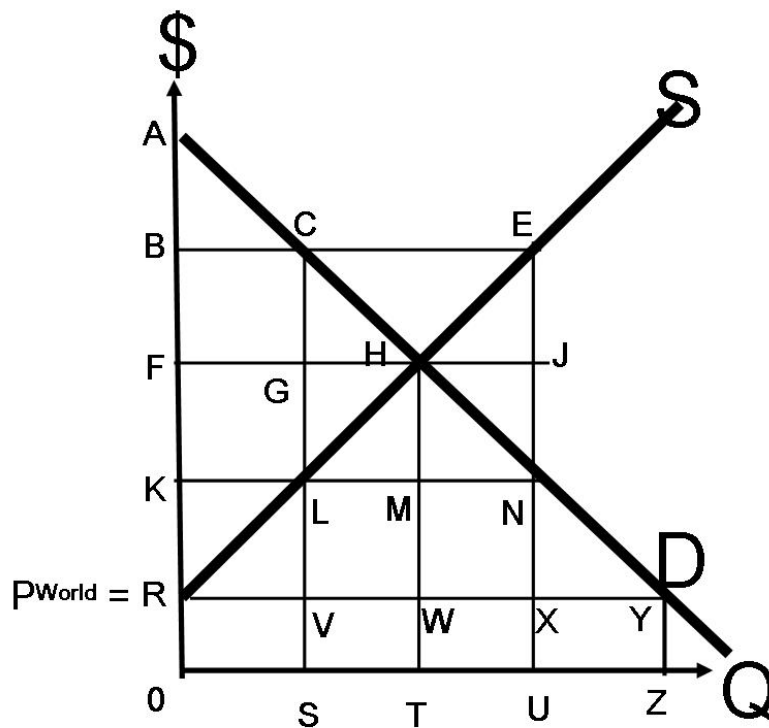
20. If the price equals 2, in the short run the firm will produce. The resulting maximum profit equals

- a) Not enough information to tell.
- b) -19
- c) -4
- d) -6
- e) -8

For the next four questions, assume demand is D1 and the industry is in **long-run** equilibrium.

21. The price  $P^{LR}$  is
- a) 9
  - b) 4
  - c) 6
  - d) 3
  - e) 12
22. Long-run output per firm  $q^{LR}$  equals
- a) 3
  - b) 4
  - c) 6
  - d) 9
  - e) 12
23. Long-run industry quantity  $Q^{LR}$  equals
- a) 900
  - b) 300
  - c) 450
  - d) 600
  - e) 200
24. Long-run number of firms  $N^{LR}$  equals
- a) 100
  - b) 150
  - c) 200
  - d) 250
  - e) 300
25. Suppose the industry is initially in long-run equilibrium at demand D1 and the number of firms equals the number in the previous question. Demand then shifts to D2. In the **short-run**, the equilibrium price will be
- a) 10
  - b) 6
  - c) 9
  - d) 4
  - e) 12
26. In the shift from D1 to D2, in the short run, the effect on price is \_\_\_\_\_ and the effect on industry quantity is \_\_\_\_\_ than in the long run. (Fill in the blanks.)
- a) smaller, smaller
  - b) smaller, bigger
  - c) bigger, smaller
  - d) bigger, bigger





The above graph illustrates the supply and demand for widgets in Econland. Widgets can be obtained in world markets at a price  $P^{\text{World}} = R$  as illustrated. Suppose initially there is free trade. Then a **quota** equal to the length  $LN$  is imposed.

27. The **change** in Econland Surplus (the total of producer and consumer surplus) from the imposition of the quota equals (minus) the area
- CHL
  - LHN
  - RLNY
  - NXY
  - HEN
28. The loss in total surplus from inefficient production is the area \_\_\_\_\_ and the loss from inefficient consumption is the area \_\_\_\_\_. (Fill in the blanks.)
- CHL, ENH
  - RLV, NYX
  - RHW, WHY
  - NYX, RLV
  - WHY, RHW
29. The transfer of surplus from Econland to those foreign producers who are allocated the quota equals the area
- BCLK
  - KNYR
  - LMWV
  - LNXY
  - LHN

30. (This question refers to the graph on the previous page regarding widgets in Econland.) If the world price  $P^{\text{World}}$  were to fall to zero, in this case Econland would be better off with autarky.
- True
  - False
31. A public good is
- rivalrous in consumption and excludable.
  - rivalrous in consumption and nonexcludable.
  - nonrivalrous in consumption and excludable.
  - nonrivalrous in consumption and nonexcludable.
32. Each of the following is likely to be a successful way for the government to solve the problem of overuse of a common resource **except**
- asking individuals to voluntarily reduce their use of the resource.
  - selling the common resource to a private entity.
  - taxing the use or consumption of the common resource.
  - regulating the use or consumption of the common resource.
33. An example of a public good is
- A project that would clean up slime on a lake. On account of the slime, everyone in a community has to suffer the smell of a horrible stench.
  - A project that would deliver one Chipotle burrito to everyone who lives in community.
  - A proposal that every graduating high school senior be awarded a ticket to a Twins game.
  - Deer hunting on public lands.
34. When a country allows trade and becomes an **importer** of a good
- both domestic producers and domestic consumers become better off.
  - both domestic producers and domestic consumers become worse off.
  - domestic producers become worse off, and domestic consumers become better off.
  - domestic producers become better off, and domestic consumers become worse off.
35. In recent years, there has been a dramatic increase in imports from China into the United States in consumer goods products like furniture and clothing. The segments of these industries in the United States that have been **hit the hardest** include all of the following **except**,
- labor-intensive goods.
  - standardized goods meant for a mass market.
  - the market segments that earlier moved to southern U.S. states to take advantage of low wages there.
  - custom goods and fashion goods