

NAME:

SECTION (mark yours): 05 06

**EC 131 - Principles of Microeconomics  
Fall 2011**

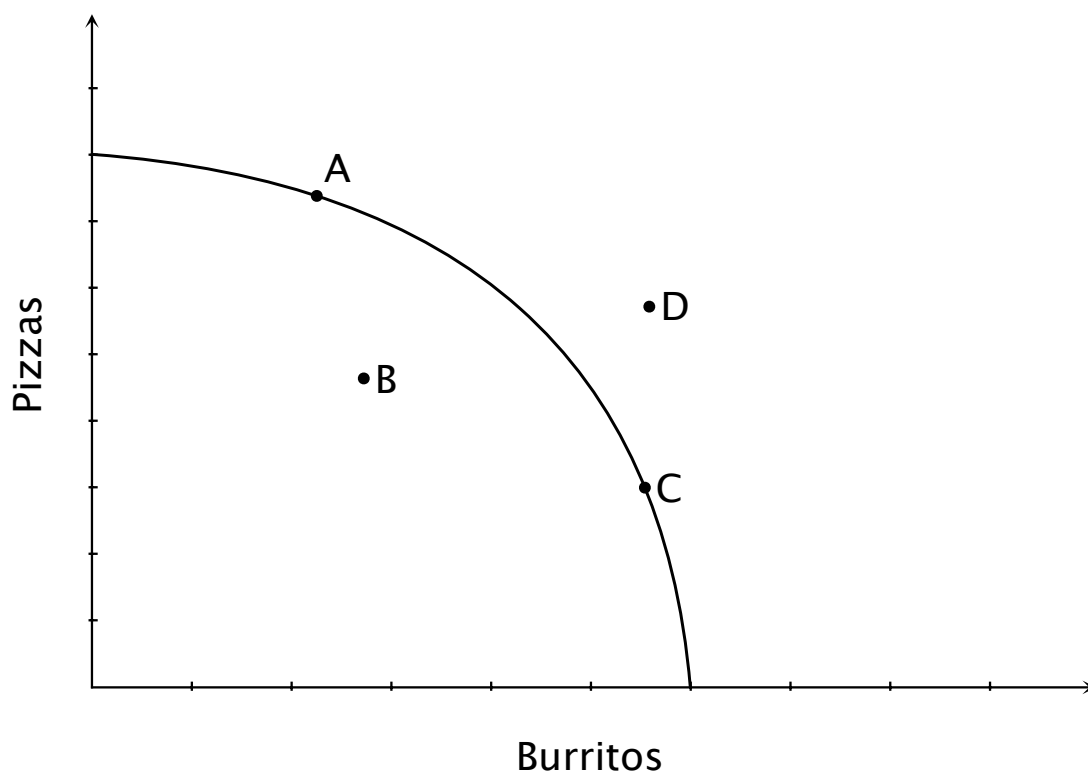
**MIDTERM #1**

Please put your name and section number (05, or 06) on any blue books you use. You will only use the blue book for questions 12 and 13, all other questions should be answered in the following pages. Clearly label the question and question subparts. Use as much space as you need and show *all* your work. Nothing here requires a very long answer. Graphs often help, as does neatness.

You have 75 minutes to complete this exam. Mark **clearly** your answers for the multiple choice questions in their respective letters. If more than one alternative is marked you will not get any point from that question. You can use pencil, though if you do so you won't be able to dispute the grading for that question afterwards. **You MUST return BOTH the blue books you use AND this exam.** Each question clearly states how many points it is worth. The exam is worth 120 points.

*Use your time wisely.*

*Use the following PPF (production possibilities frontier) for questions 1 and 2:*



**Question 1 - (5 points)** Regarding this PPF model for a country, mark the **incorrect** alternative:

- a. If the amount of inputs (ex: hours of labor) changes, the PPF also changes.
- b. The point B is feasible, but inefficient.
- c. **The point D is feasible and efficient.**
- d. Both points A and C are efficient, so the choice between them should depend on the country's preference among them.

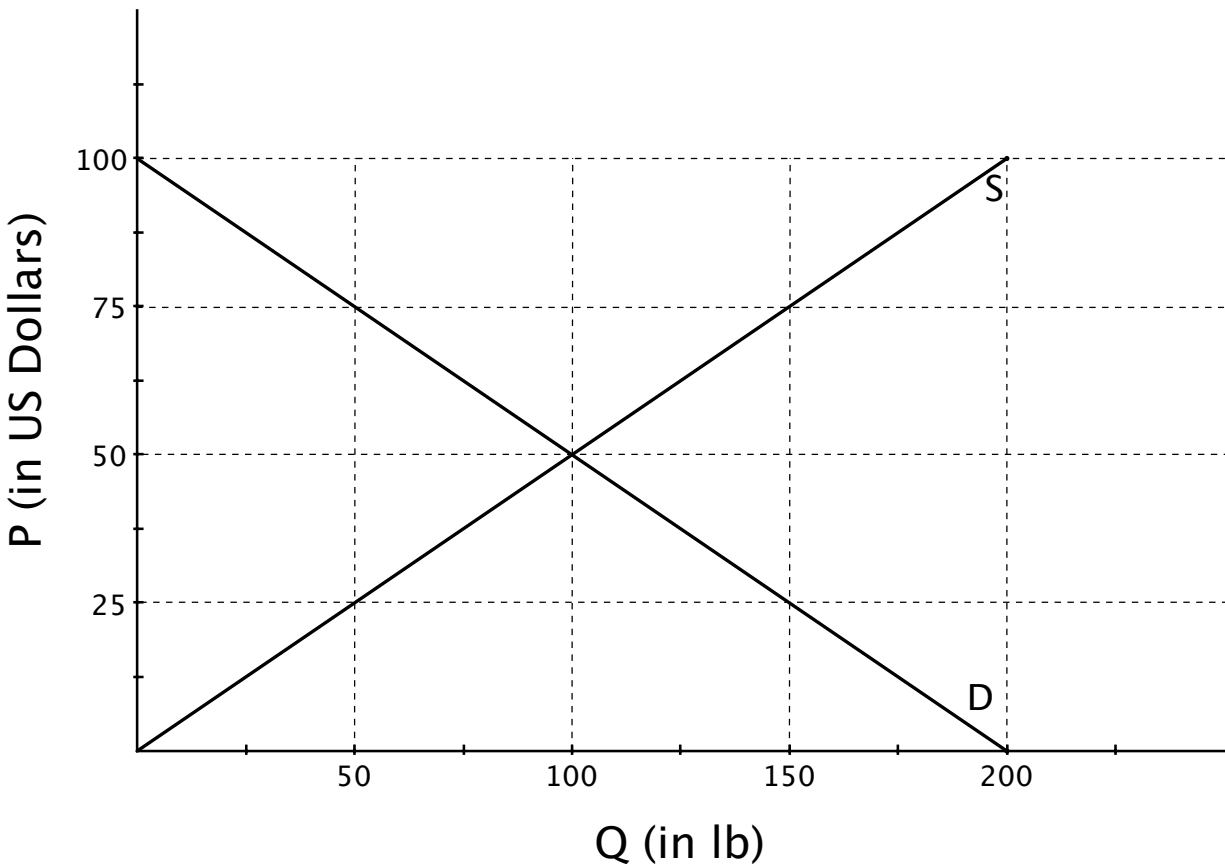
**Question 2 - (5 points)** Suppose that two countries (**CA** and **CC**) have the same PPF shown in the figure. Country **CA** is producing at point A and country **CC** is producing at point C. Mark the **correct** alternative:

- a. Since both countries have the same PPF, they can't benefit from trade.
- b. The opportunity cost for Pizzas is the same for both countries
- c. **The opportunity cost of Pizzas is higher at country CA than at CC.**
- d. The opportunity cost of Burritos is lower at country **CC** than at **CA**.

**Question 3 - (5 points)** Mark the **correct** alternative:

- a. If the US has **absolute advantage** in the production of goods A and B compared to Germany, then **only** the US could benefit from trading these goods with Germany.
- b. If the US has **absolute advantage** in the production of goods A and B compared to Germany, then Germany cannot have **comparative advantage** in any of these two goods when compared to the US
- c. If a certain trade is good for a country, then it's good for **everyone** in that country
- d. **A country that doesn't have absolute advantage in the production of any good can still benefit from trade.**

Use the following graph of the market for corn (with linear supply and demand curves) for questions 4,5,6 and 7:



**Question 4 - (5 points)** If  $P = \$25$ , mark the correct alternative:

- Consumers will want to buy 50 lb of corn, at \$ 0.50 per lb
- Consumers will want to buy 150 lb of corn, at about \$0.17 per lb
- Producers will supply 50 lb at \$ 25 each lb**
- Consumers will want to buy 50 lb at \$25 each lb

**Question 5 - (5 points)** If there are **no interventions**, market forces will lead to the following price, quantity and total producers' revenue:

- $P^* = \$25$ ,  $Q^* = 100$  lb,  $TR = \$ 2,500$
- $P^* = \$50$ ,  $Q^* = 100$  lb,  $TR = \$ 5,000$**
- $P^* = \$50$ ,  $Q^* = 100$  lb,  $TR = \$ 50,000$
- $P^* = \$25$ ,  $Q^* = 50$  lb,  $TR = \$ 12,500$

**Question 6 - (5 points)** If the government mandates a **price ceiling** of \$75, then:

- a. There will be a surplus of 100 lb
- b. There will be a shortage of 100 lb
- c. There will be a surplus of 150 lb
- d. **None of the above is true**

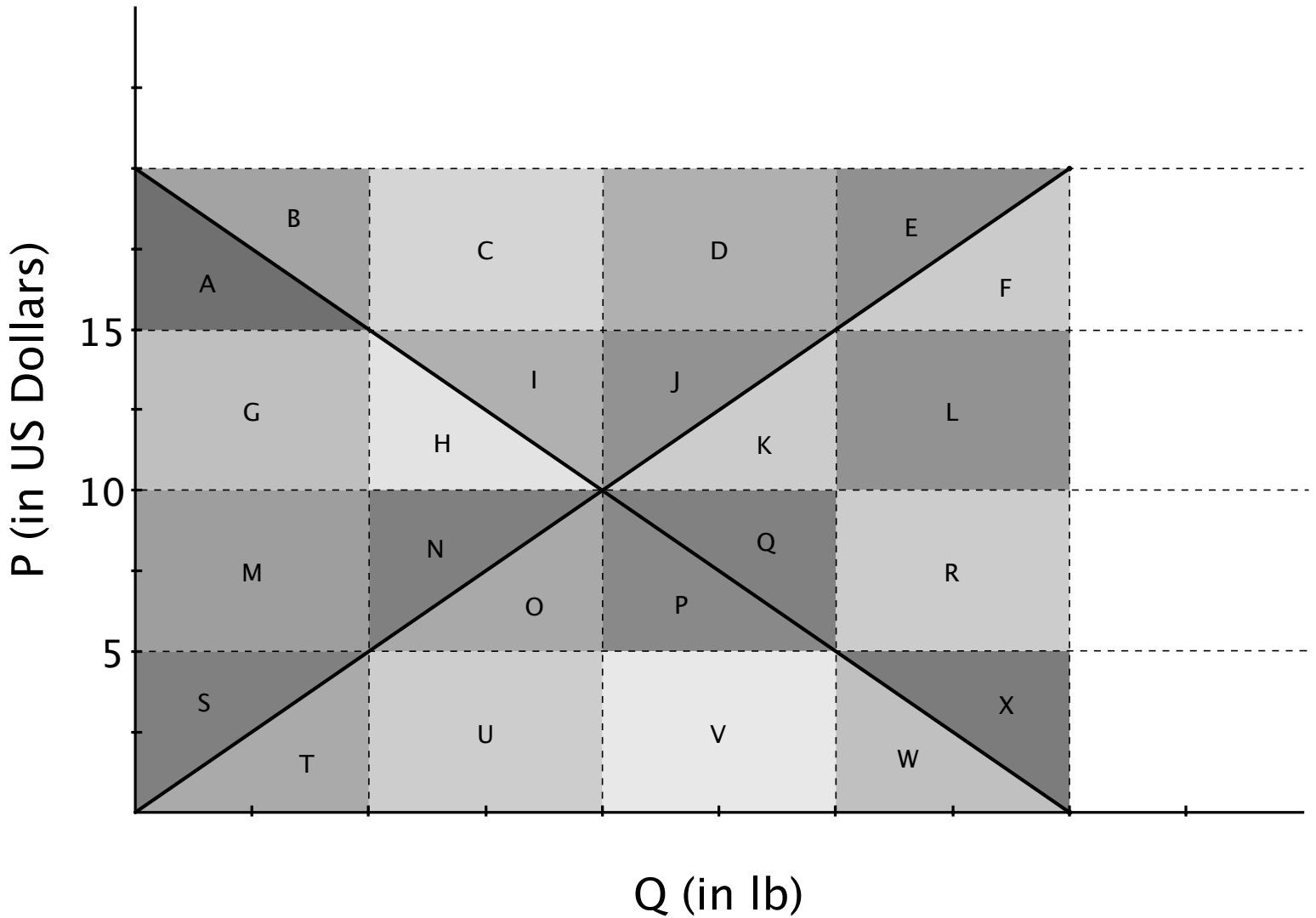
**Question 7 - (5 points)** If the price of fertilizer (an input for the production of corn) **decreases**, then:

- a. **The price of 1 lb of corn will decrease to below \$50, and the quantity purchased will raise to above 100 lb**
- b. The price of 1 lb of corn will decrease to below \$50, and the quantity purchased will decrease to below 100 lb
- c. The price of 1 lb of corn will raise to above \$50, and the quantity purchased will decrease to below 100 lb
- d. We cannot state with certainty what will happen

**Question 8 - (5 points)** Which of the characteristics below contributes to make the demand for a product **more elastic**?

- a. The presence of complementary goods
- b. A broader defined market
- c. **A longer period of time under consideration**
- d. The absence of close substitutes

Use the following graph of a market with its demand and supply curves for questions 9,10 and 11:



The following questions should be answered directly in the boxes in front of them. Write your welfare analysis answers as summations of the letters in the graph above. No explanations are necessary. Example: A+B+C. If the answer is ZERO, indicate so by writing "ZERO".

**Question 9 - (10 points)** Suppose that markets are free, without taxes and closed to international trade. Indicate the areas corresponding to the following values:

Consumer Surplus	A+G+H
Producer Surplus	M+N+S

**Question 10 - (10 points)** Suppose now that the government imposes a tax on producers of \$10 per unit sold. Indicate the areas corresponding to the following values:

Consumer Surplus	A
Producer Surplus	S
Tax Revenue	G+M
Deadweight Loss	H+N

**Question 11 - (10 points)** Suppose that the country opens to trade and the world price is  $PW = \$5.00$ .

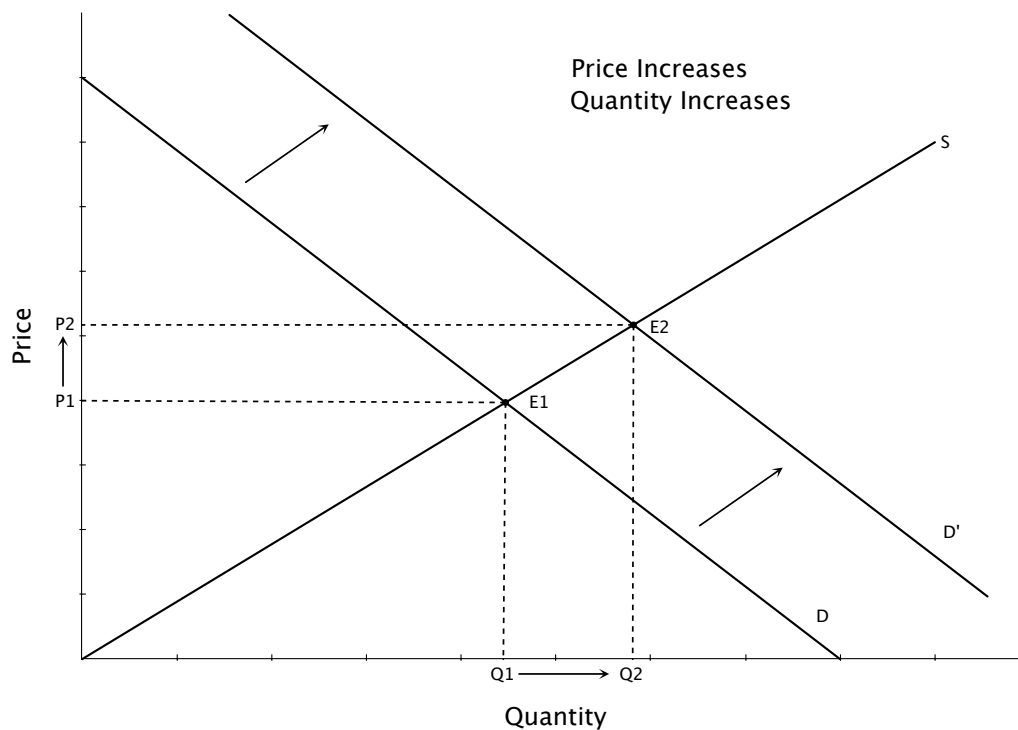
Is this country going to **import** or **export** that good?

**Import**

Indicate the areas corresponding to the following values:

Consumer Surplus	A+G+H+M+N+O+P
Producer Surplus	S
Deadweight Loss	Zero

**Question 12 - (20 points) Answer this question in the blue book.** Consider the market for backpacks (a **normal good**), and suppose that it is a competitive market. For each of the items below, **draw a demand and supply graph, indicating clearly which curves shift and how they look before and after the change**, and write down how equilibrium price and quantity change (**up, down or ambiguous**). Below is an EXAMPLE of how the answers must look like:



- The cost of the fabric for producing backpacks goes up  
**Supply shifts to the left. Price up, Quantity down.**
- The beginning of school year comes  
**Demand shifts to the right. Price up, Quantity up.**
- The price of notebooks (a **complementary** good) goes down  
**Demand shifts to the right. Price up, Quantity up.**
- Students' allowances increase (thus they have more income) and the number of companies that produce backpacks also increases  
**Demand shifts to the right, Supply shifts to the right. Price ambiguous, Quantity up.**
- The cost of production of case binders (a **substitute** for backpacks) increases, while the cost of production of backpacks **also increases**  
**Demand shifts to the right, Supply shifts to the left. Price up, Quantity ambiguous.**

**Question 13 - (30 points) Answer this question in the blue book.** Graphs are not necessary in this question for most items, but they always help. Suppose that the demand and supply functions for backpacks are:

$$QD=300-3P$$

$$QS=2P$$

- a. Draw a graph with the demand and supply curves, indicating clearly the values in the axes and the intercepts.  
**Vertical intercept at P=100. Horizontal intercept at Q=300.**
- b. Calculate the equilibrium price  $P^*$   
 **$P^*=60$**
- c. Calculate the equilibrium quantity  $Q^*$   
 **$Q^*=120$**
- d. Calculate the **price elasticity of demand** at the equilibrium. Is it elastic or inelastic?  
 **$E=1.5$  (elastic demand)**
- e. Calculate the value of the **consumer surplus** in this equilibrium  
 **$CS=\$2400$**
- f. Calculate the value of the **producer surplus** in this equilibrium  
 **$PS=\$3600$**
- g. Suppose that the government imposes a **tax of \$20** to be paid by the producer for each backpack sold. Calculate the **price paid by the consumer PC**  
 **$PC=\$68$**
- h. Calculate the net **price received by the producer (after tax) PS**  
 **$PS=\$48$**
- i. Calculate the **tax revenue**  
 **$TR=\$1920$**
- j. Calculate the value of **consumer surplus** in this equilibrium  
 **$CS=\$1536$**
- k. Calculate the value of **producer surplus** in this equilibrium  
 **$PS=\$2304$**
- l. Calculate the value of the **deadweight loss** caused by the taxation  
 **$DWL=\$240$**