

**Concordia University
Department of Economics
ECON 201 Section Y
Winter 2012-2013
Midterm Exam**

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Name: _____

Student ID: _____

February 27th, 2013

Mark: _____ /100 marks

Time Limit: 75 minutes

Part I. Multiple Choice Questions. Circle the best answers (30 marks).

- 1) All of the following are positive statements except
- a) Interest rates in Canada are too high
 - b) Increasing government subsidies to post-secondary institutions should increase the application rates to universities and colleges
 - c) The average wait for an MRI in Alberta is 12 months
 - d) Other things equal, higher interest rates reduce the total amount of borrowing.
 - e) The unemployment rate in Italy is higher than that in Canada
- 2) If goods J and K are substitutes, an increase in the price of J causes:
- a) quantity demanded of J to fall and the demand curve for K to shift toward the origin.
 - b) a decrease in quantity demanded for J and an outward shift of K's demand curve.
 - c) quantity demanded of J remains constant, but the demand for K decreases.
 - d) the demand curve for both J and K shift.
- 3) Which of the following will cause the demand curve to shift to the right:
- a) a reduction in income if the good is normal.
 - b) an increase in the price of a complementary good.
 - c) an increase in the price of a substitute good.
 - d) an increase in income if the good is inferior.
- 4) The demand for a product is elastic when:
- a) a fall in the price of the product causes total expenditures by consumers on the product to fall.
 - b) the percentage change in quantity demanded equals the percentage change in price.
 - c) total expenditures by consumers for the product increase when the product's price falls.
 - d) a fall in the price of the product does not affect the firm's revenue.

- 5) If quantity supplied increases from 1,000 to 1,160 units when prices rise by 8 percent, the elasticity of supply using the initial quantity as base is:
- 0.2.
 - 3.4.
 - 2.
 - cannot be determined from the information provided.
- 6) A simultaneous increase in both demand and supply will lead to
- A certain increase in Q.
 - The change in Q is undetermined
 - The change in P is undetermined
 - Both a and c are correct
- 7) An effective price floor will cause:
- consumer surplus to fall.
 - total economic surplus to rise.
 - quantity supplied to exceed quantity demanded.
 - quantity demanded to increase.
 - Both a and c are correct
- 8) An Olympic soccer player reveals that she had given up a job that paid \$45,000 per year to train full-time. She received a grant of \$9,000 per year from Sports Canada, but this could not cover all her training expenses. Her food and rent were \$16,000 and training expenses were \$10,000. What is her annual opportunity cost of participating in the Olympics?
- \$17,000.
 - \$35,000.
 - \$36,000.
 - \$46,000.
- 9) Using a supply and demand diagram of your own, if a per unit tax is imposed, the more elastic the Demand curve, the:
- smaller the deadweight loss and the larger the consumer burden.
 - larger the deadweight loss and the larger the consumer burden
 - larger the deadweight loss and the smaller the consumer burden.
 - smaller the deadweight loss and the smaller the consumer burden.
- 10) Goods A and B are substitutes goods (in consumption). The cost of a resource used in the production of A decreases. As a result,
- the equilibrium price of A and B will fall .
 - the equilibrium price of B will rise and the equilibrium price of A will fall.
 - the equilibrium prices of both A and B will rise.
 - the equilibrium prices of both A and B will fall.
 - the equilibrium price of B will fall by more than the rise in the equilibrium price of A.

Part II: Answer all parts (Total= 70 marks)

Question 1 (20 marks)

The following are hypothetical production possibilities tables for Canada and the United States.

Canada's Production Possibilities Table
(Millions of bushels)

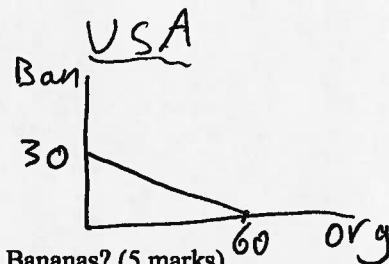
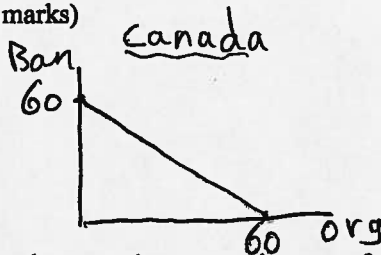
	A	B	C	D
Bananas	0	20	40	60
Oranges	60	40	20	0

The United States' Production Possibilities Table
(Millions of bushels)

	A	B	C	D
Bananas	0	10	20	30
Oranges	60	40	20	0

For each line required, plot any two or more points on the line.

- a) Plot Canada's and the United States' production possibilities curve by plotting at least 2 points on each curve. (5 marks)



- b) What is each country's opportunity cost of producing Oranges and Bananas? (5 marks)

opp. cost of 1 extra org = $-\frac{\Delta \text{banana}}{\Delta \text{org}} = -\frac{60}{60} = -1 \text{ banana}$ (Canada)

opp. cost of 1 extra org = $-\frac{\Delta \text{banana}}{\Delta \text{org}} = -\frac{30}{60} = -\frac{1}{2} \text{ banana}$ (USA)

opp cost of 1 extra banana = $-\frac{\Delta \text{org}}{\Delta \text{banana}} = -1 \text{ org}$

opp cost of 1 extra banana = -2 org

- c) Which nation should specialize in which product? And why? (5 marks)

Canada has a comparative advantage in producing banana "so Canada has to specialize in banana"
Canada " produce banana with a lower opp. cost

USA → specialize in org

- d) Suppose that the optimum product mixes before specialization and trade were C in Canada and B in the United States. What are the gains from specialization and trade if you know that the terms of trade are 1 orange for 2 bananas? (5 marks)

Before trade world production } before trade & specialization 50 banana + 60 org
 after trade 60 banana + 60 org

gains from specialization = 10 banana

Question 2 (20 marks)

Suppose we have a company that produces fertilizers. The production process releases sulfur dioxide into the atmosphere.

The marginal private cost (MC) of producing fertilizers is $MC=Qs$,

The marginal social cost (MSC) is $MSC=3Qs$,

The demand curve for fertilizers (there are no external benefits) is $P=24-Qd$.

a) In an unregulated market, what is the equilibrium quantity and price of fertilizer? (5 marks)

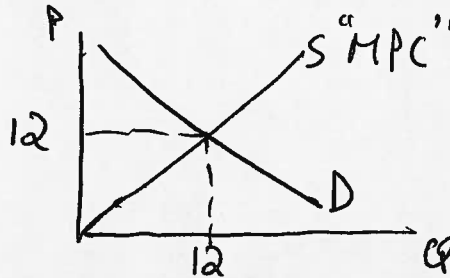
equilibrium condⁿ

$$Q_d = Q_s$$

$$24 - Q = Q$$

$$Q = 12$$

$$P = 12$$



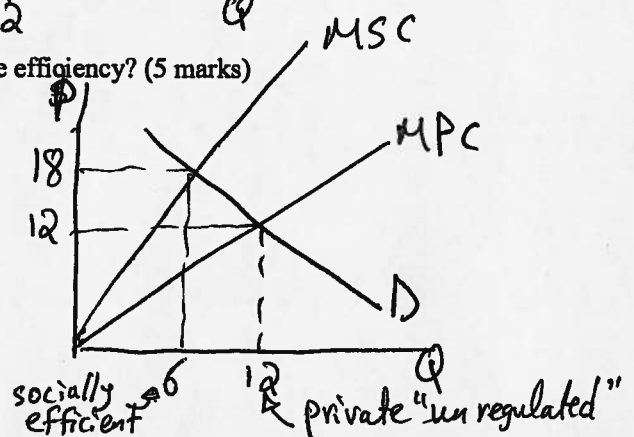
b) What are the Price and Quantity that achieve allocative efficiency? (5 marks)

Allocative efficiency is achieved when Demand intersects with MSC

$$24 - Q = 3Q$$

$$Q = 6$$

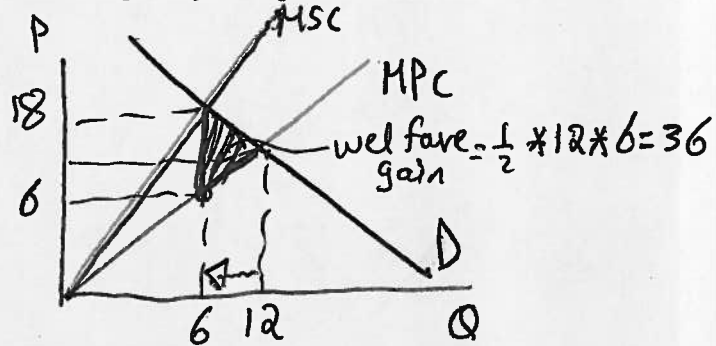
$$P = 18$$



c) What should the government do to achieve the allocative efficient quantity of output? Calculate the exact amount of the subsidy/tax? (5 marks)

Gov should impose a tax to force the producer to produce less

$$\text{tax} = Ec \text{ at the efficient } Q = 12 / \text{unit}$$



d) Calculate the welfare gain/loss from the government intervention. (5 marks)

$$\text{welfare gain} = 36$$

Question 3 (30 marks)

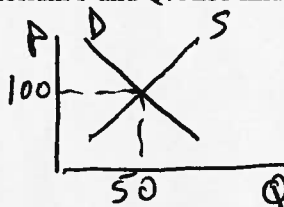
As an economist in the Department of Agriculture you have estimated the demand to be $P = 150 - Q_d$ and supply to be $P = 50 + Q_s$ for the wheat. You have been asked to evaluate three policy choices. Quantities are in tons.

- a) Suppose there are no interventions. Find the equilibrium P and Q. Also find the total revenue (TR) of the farmers. (5 marks)

$Q_d = Q_s$ "eq^m cond"

$150 - Q = 50 + Q$

$Q = 50$
 $P = 100$

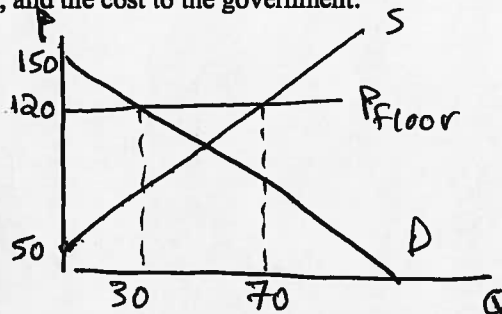


- b) Option 1: Price floor=\$120, the government buys up any excess supply. (10 marks)

Find Q_d , Q_s , consumer and producer surplus, TR of the farmers, and the cost to the government.

$Q_d = 30$ $Q_s = 70$ $\frac{1}{2} \times 30 \times 30 = 450$ $\frac{1}{2} \times 70 \times 70 = 2450$ $\sum P \times Q = 8400$

Cost to Gov = $40 \times 120 = 4800$



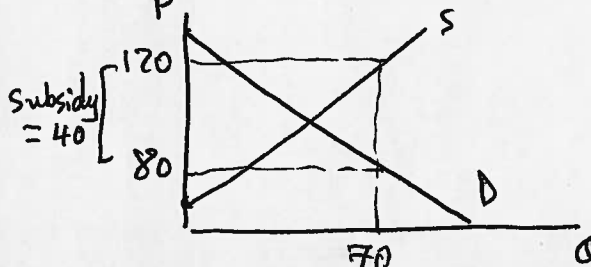
- c) Option 2: Production subsidy

Find the amount of the production subsidy per unit required such that the TR of farmers is the same as under the price floor. Also find how much the consumers pay per unit and the total cost to the government. (5 marks)

Consumer pays 80

Gov pays 40

Cost to Gov = $40 \times 70 = 2800$

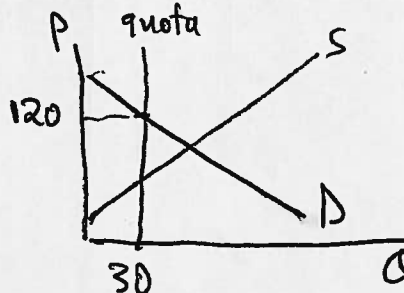


- d) Option 3: Quota=30

Find the corresponding consumer price and the total revenue of the farmers at this quantity supplied. (5 marks)

Consumer pays 120

Farmer TR = $120 \times 30 = 3600$



- e) In your capacity as an economist working for the government, which of the three options would you recommend? If you were working as an economist for the farmers, which option would you recommend? Explain. (5 marks)

if working for the Gov \rightarrow go with the quota "costs nothing"
 " " " " farmers \rightarrow go with the price floor or subsidy
 because they give higher TR.