

Concordia University
Department of Economics
ECON 201 Section H
Winter 2013-2014
Midterm Exam

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Name: _____

Student ID: _____

February 26th, 2014

Mark: _____/100 marks

Time Limit: 75 minutes

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

- 1) Which of the following is a normative statements
- A
- a) Economists should not make normative statements
 - 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.
- 2) If the nominal annual wage of a worker has increased from \$30,000 to \$50,000, and the consumer price index has risen from a value of 120 to 150, then the real wage increase of the worker is approximately:
- D
- a) 0%.
 - b) 15%.
 - c) 44%.
 - d) 33.3%.
- 3) Cross sectional data:
- C
- a) Are used very infrequently in economic analysis.
 - b) Measure a variable or variables for different economic units at different points in time.
 - c) Measure a given variable for different economic units at a point in time.
 - d) Measure a variable or variables at different points in time.
- 4) If goods J and K are substitutes, a fall in the price of J causes:
- A
- a) Quantity demanded of J to rise 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.
- 5) The demand for a product is unit elastic when:
- E
- 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.
 - e) Both b and d are correct.

- 6) If quantity demanded decreases from 1,160 to 1,000 units when income rise by 8 percent, this good could be classified as:
- B
- a) Normal
 - b) Inferior.
 - c) Necessity.
 - d) Luxury.
- 7) Suppose that there is a simultaneous increase in the level of technology and the price of an input. This will lead to
- E
- a) A certain increase in Q.
 - b) A certain increase in P.
 - c) The change in Q is undetermined
 - d) The change in P is undetermined
 - e) Both c and d are correct
- 8) An effective price ceiling will cause:
- E
- a) Producer surplus to fall.
 - b) Total economic surplus to rise.
 - c) Quantity supplied to exceed quantity demanded.
 - d) Quantity demanded to increase.
 - e) Both a and d are correct
- 9) Suppose that to come to the exam you have to be absent today from your job that pays you 100 \$ per day. Suppose that today you will buy food and drinks that cost you 20 \$, and you have to buy a calculator to use it in the exam that costs you 50\$. What is your opportunity cost of coming to the exam today?
- A
- a) \$ 150.
 - b) \$. 170
 - c) \$ 100.
 - d) \$ 70.
- 10) If a per unit tax is imposed on the producer and the Demand curve is perfectly inelastic, which of the following statement is correct:
- A
- a) deadweight loss= 0 , Producer burden = 0 , consumer burden= Tax
 - b) deadweight loss= 0 , Producer burden = Tax , consumer burden= 0
 - c) deadweight loss is maximum, Producer burden = 0 , consumer burden= Tax
 - d) None of the above.

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

Question 1 (20 marks)

The following are hypothetical production possibilities tables for Canada and China.

Canada's Production Possibilities Table

	A	B	C	D
Apples	0	4	8	12
Oranges	12	8	4	0

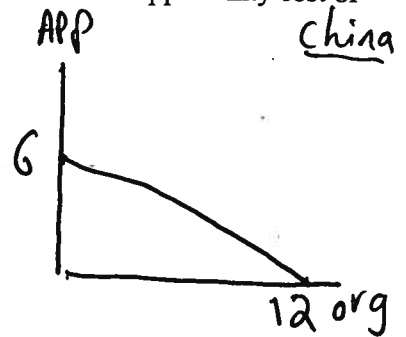
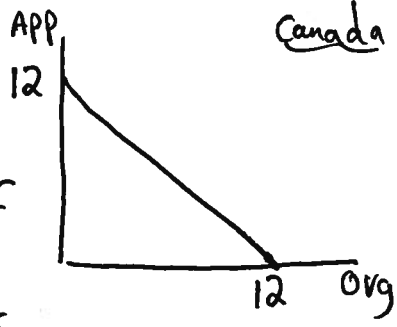
China's Production Possibilities Table

	A	B	C	D
Apples	0	2	4	6
Oranges	12	8	4	0

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

- a) Plot Canada's and China's production possibilities curve by plotting at least 2 points on each curve. Can Canada produce (8 apples and 8 oranges)? And why? When could this bundle be attainable? Calculate the opportunity cost of producing 8 oranges in Canada (7.5marks)

* No Canada cannot produce (8,8) as this bundle lies above the PPF
 * This bundle could be attainable if Quantity of Resources ↑ or if there is a technological progress in this case PPF will shift outward.
 * opp cost of 8 oranges = -8 Apples



- b) What is each country's opportunity cost of producing Apples and oranges? Which country should specialize in which product? And why? (7.5 marks)

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

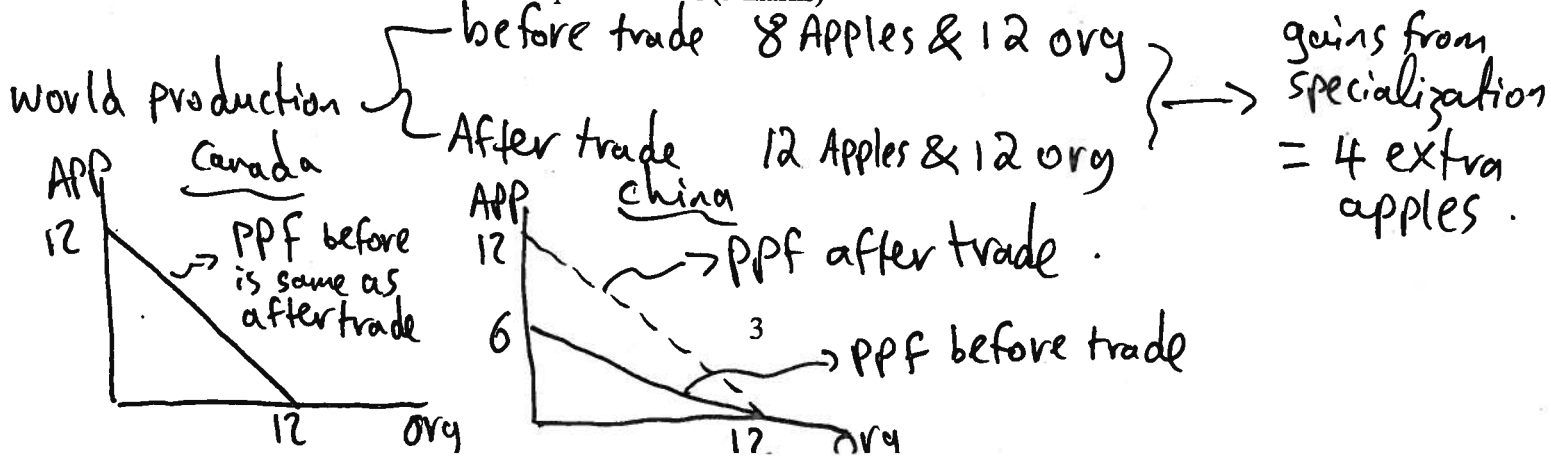
Canada: $-\frac{12}{12} = -1 \text{ app}$ China: $-\frac{6}{12} = -0.5 \text{ app}$

opp. cost of 1 extra Apple = $-\frac{\Delta \text{org}}{\Delta \text{APP}}$

Canada: $-\frac{12}{12} = -1 \text{ org}$ China: $-\frac{12}{6} = -2 \text{ org}$

China has a lower opportunity cost in producing org → specialize in org
 Canada " " " " " Apples → specialize in Apples

- c) Suppose that the optimum product mixes before specialization and trade were B in Canada and C in China. What are the gains from specialization and trade if you know that the term of trade is 1 apple for 1 orange? Draw the production possibility curve for both countries after specialization (5 marks)



Question 2 (20 marks)

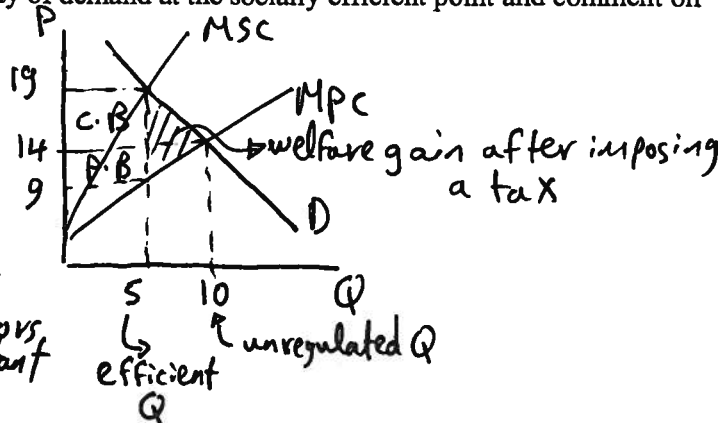
Suppose we have a company that produces fertilizers. The production process releases sulfur dioxide into the atmosphere. The marginal private cost (MC) of producing fertilizers is $MC=4+Q$
 The marginal social cost (MSC) is $MSC=4+3Q$
 The demand curve for fertilizers (there are no external benefits) is $P=24-Q$

- a) In an unregulated market, what is the equilibrium quantity and price of fertilizer? And what are the Price and Quantity that achieve allocative efficiency? Calculate price elasticity of demand at the socially efficient point and comment on the calculated number. (7.5 marks)

$$\epsilon_d = \frac{\Delta Q}{\Delta P} * \frac{P}{Q} = -1 * \frac{19}{5} = -3.8$$

demand is elastic since $|\epsilon_d| > 1$

for every change in P by 1%, Q.d changes by 3.8% in opposite direction, other factors kept constant

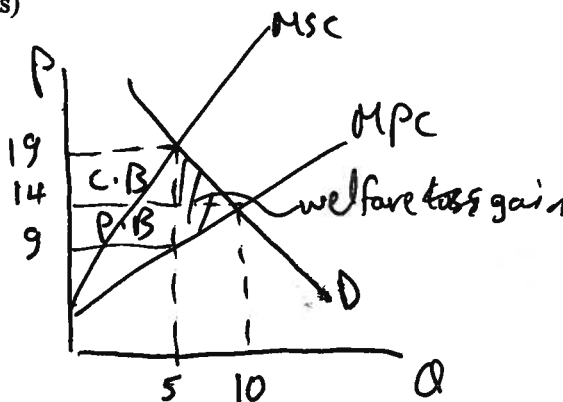


- b) What should the government do to achieve the allocative efficient quantity of output? Calculate the exact amount of the subsidy/tax? What is the total revenue/ cost to government from this policy. (5 marks)

impose tax = 10 \$/unit
 tax Revenue = $10 * 5 = 50$ \$

- c) Calculate the burden/return of the intervention policy in part (b) on the consumer and producer. Calculate the welfare gain/loss from the government intervention. (7.5 marks)

$C.B = 5 * 5 = 25$
 $P.B = 5 * 5 = 25$
 welfare gain = $\frac{1}{2} * 5 * 5 = 25$



Question 3 (30 marks)

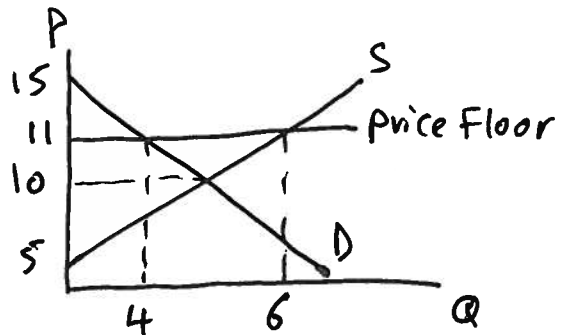
Consider the apples market in Quebec. Suppose the demand for apples to be $Q = 15 - P$ and supply to be $Q = P - 5$.

a) Find the equilibrium P and Q . Also find the total revenue (TR) of the farmers. (2.5 marks)

$eq^{th} cond^{n}: Q_d = Q_s$
 $15 - P = P - 5$
 $P = 10$
 $Q = 5$
 $TR = P * Q = 50$

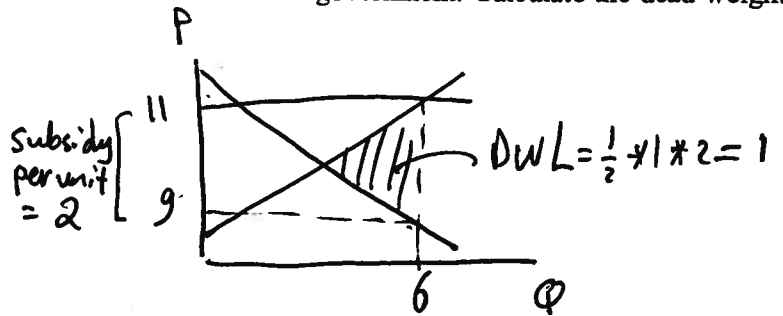
b) Now suppose the government decides to have a "price support program" with a minimum price set at $P = \$11$ and the government buys up any excess supply. Find Q_d , Q_s , consumer and producer surplus after the price support, TR of the farmers, the cost to the government, dead weight loss. (10 marks)

$C.S = \frac{1}{2} * 4 * 4 = 8$
 $P.S = \frac{1}{2} * 6 * 6 = 18$
 $TR = 6 * 11 = 66$
 $Cost\ to\ Gov = 11 * 2 = 22$
 $DWL = 22 - \frac{1}{2} * 2 * 1 = 21$



c) Suppose, instead, the government decides to have a "government subsidy program" with a guaranteed (or target) price of $P = \$11$. Find the amount of the 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. Calculate the dead weight loss resulting from this policy (10 marks)

Consumer pays 9\$
 Cost to Gov = 2 * 6 = 12



d) Suppose the government imposed a Quota=4 units and decided to collect a quota rent. Find the corresponding consumer price, producer price, and quota rent revenue, consumer and producer surplus after the quota and calculate the deadweight loss. (7.5 marks)

