Concordia University, Economics

Econ 201/2 **Mid-Term Examination, Oct 22 2012** **Ian Irvine**

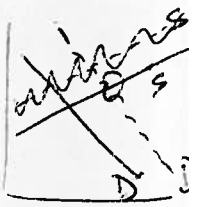
Instructions: Answer all MC questions and all 3 problems. Time limit is 70 minutes. Non programmable calculators permitted. Answer all questions, including multiple choice, on this question paper. Rough work can be done on the back side of each page. No other paper is to be used in the exam.

FAMILY NAME FIRST NAME STUDENT NUMBER

MARKING: MC PROBLEMS: 1. 2. 3. Σ= . TOTAL= .

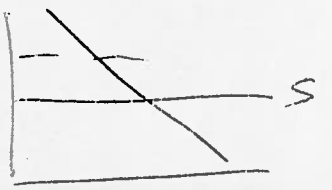
Multiple choice: Answer all 10 questions

1. In the presence of a positive externality, and a positively sloped supply curve, in order to ensure an efficient market outcome the government should:



(a) Subsidize the producer and drive the price to zero so that all buyers can afford it
(b) Tax the good and redistribute the proceeds to all citizens
(c) Not interfere with the market since it is always efficient on account of the positive supply curve
(d) None of the above.

2. If the government imposes a tax on cigarettes, which are supplied perfectly elastically; the incidence of the tax will fall primarily on:



(a) The buyers
(b) The suppliers
(c) Will be shared equally
(d) Neither since supply is perfectly elastic.

3. The demand for good X is given by P = 20 – 2Q. We observe that the price of good Y rises and the demand becomes P = 24 – 2Q. We can say that:

$\frac{Q_x \uparrow}{P_y \uparrow}$

(a) X and Y are substitutes
(b) X and Y are complements
(c) X is an Inferior good
(d) X is a normal good.

4. An economic model is:
(a) A scientific method used only by economists
(b) A systematic mathematical statement of the complexity of behavior
(c) A simplifying statement of the principal interactions within a complex system
(d) None of the above.

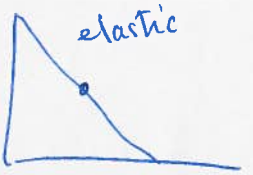
5. You have an economy in which there are two suppliers with supply functions given by P = 4 + 1Q and P = 3 + 1Q. The market supply will be:

(a) A straight line with intercept 4
(b) A straight line with intercept 3
(c) A non-straight line with intercept 4
(d) A non-straight line with intercept 3.

6. In the previous question how much will be supplied in the market if buyers have a market demand of the form P = 6?
(a) 4; (b) 5; (c) 6; (d) 7.

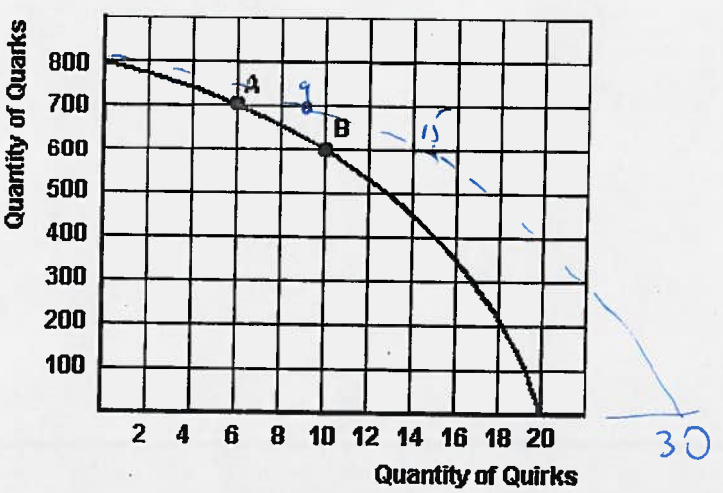
7. If the CPI at the end of 2010 was 150, and the inflation rate for 2011 was 4.0 per cent, the CPI at the end of 2011 was:
(a) 150; (b) 154; (c) 156; (d) 158.

8. If the government imposes a tax on gasoline, whose demand is elastic, expenditure will:
(e) Increase
(f) Decrease
(g) Remain unchanged
(h) None of the above.



9. The difference between a straight-line production possibilities frontier and one that is concave is that:
(a) The concave production possibilities frontier exhibits constant opportunity costs, while the straight line frontier does not
(b) The concave frontier reflects the problem of scarcity but the straight line frontier does not.
(c) The straight line frontier reflects constant opportunity costs but the concave frontier does not.
(d) Neither the straight line nor the concave frontier reflects output limits.

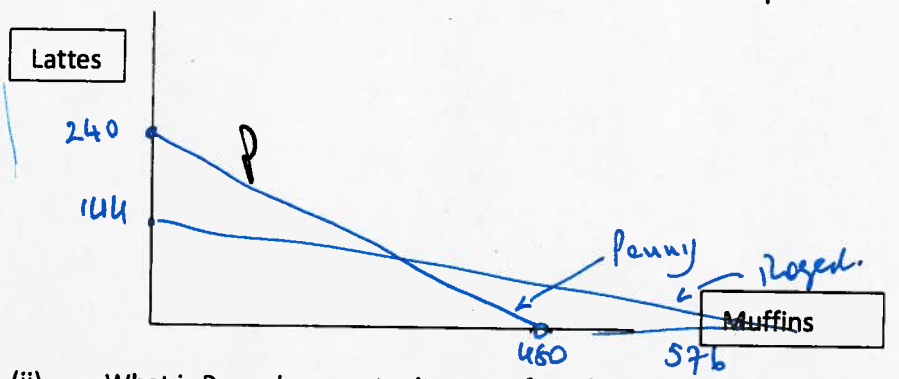
10. Consider the production possibility frontier below. If new technology increased the output of quirks by 50%, how many quirks could be produced if 600 quarks were produced?
(a) 18 quirks.
(b) 20 quirks.
(c) 15 quirks.
(d) No quirks.



Short problems: Answer all 3 questions.

1. This is a question on production efficiency and production possibility frontiers: Penny and Roger produce lattes and muffins; each has an 8-hour work day. Penny can produce 30 lattes or 60 muffins per hour; Roger can produce 18 lattes or 72 muffins per hour.

(i) Draw their production possibilities and label all intercepts numerically. (3)



72
. 8.
576

(ii) What is Penny's opportunity cost of producing one latte? What is Roger's opportunity cost of producing one latte? Explain. (2)

4 muffins

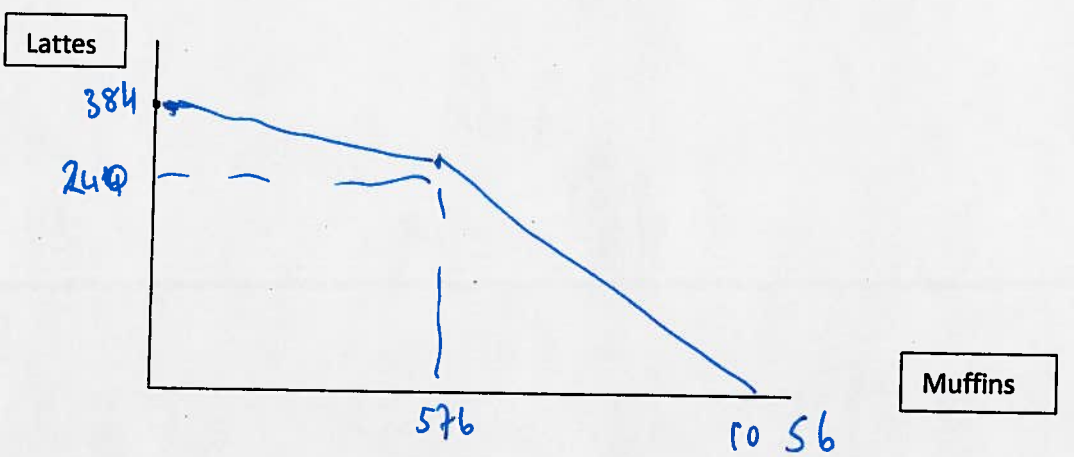
2 muffins

(iii) Does Penny have an absolute advantage in producing either good? Does Roger? Explain. (2)

Yes in Lattes

Yes in muffins

(iv) Draw the PPF for the whole economy, labeling all intersection points. (3)



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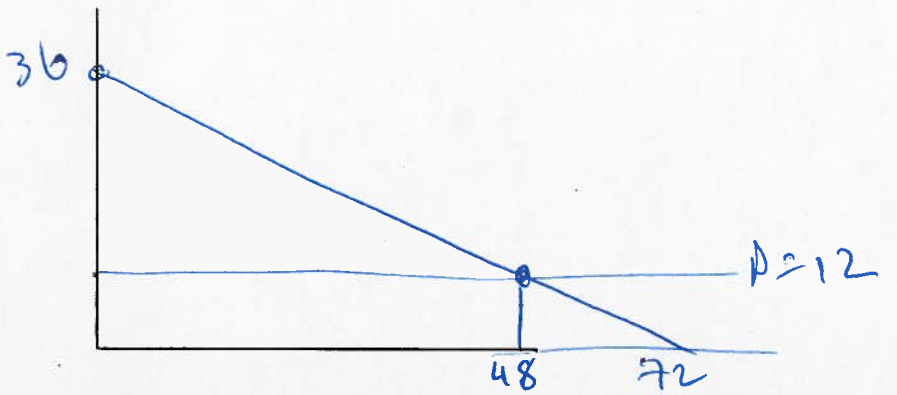
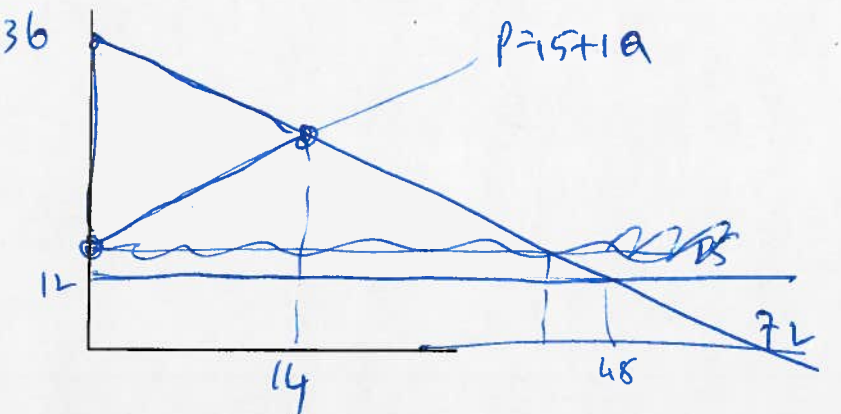
Again

2. This is a question on externalities. Suppose the demand in the market for coal-based electricity is given by P = 36 – 0.5Q, and the supply side is given by P = 12.

(i) Illustrate and compute the market equilibrium. (2)



(ii) Suppose the externalities element of production is captured by the new supply curve P = 15 + 1.0Q. Compute and illustrate the efficient equilibrium. (3)



$36 - \frac{1}{2}Q = 15 + 1Q$

$21 = 1.5Q$

$\therefore Q = 14$

(iii) Compute the total surplus accruing in this market at the free market equilibrium and at the efficient (corrected) equilibrium. (3)

$21 * 14 * \frac{1}{2}$

$= 21 * 7 = 147$

$24 \times 48 \times \frac{1}{2}$

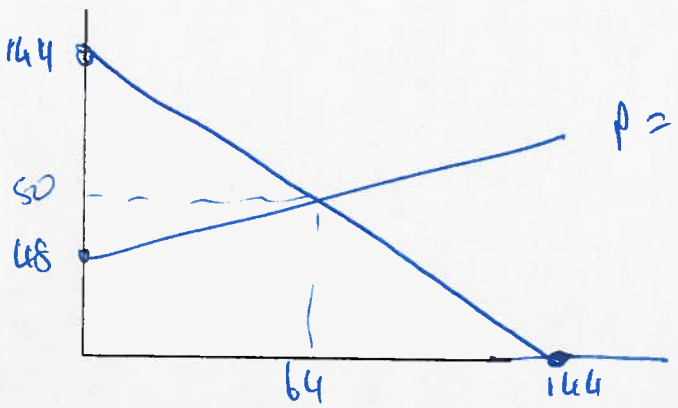
$= 24 * 24$

$= 576$

(iv) To attain the efficient equilibrium, would we tax or subsidize the market? Explain. (2)

3. This is a question on market interventions and surplus. Suppose the supply and demand curves are P = 48 +0. 5Q and P = 144 - 1Q, where P is the price and Q is quantity.

(i) Solve for the equilibrium in the market and illustrate the equilibrium. (2)



$P = 48 + \frac{1}{2}Q$

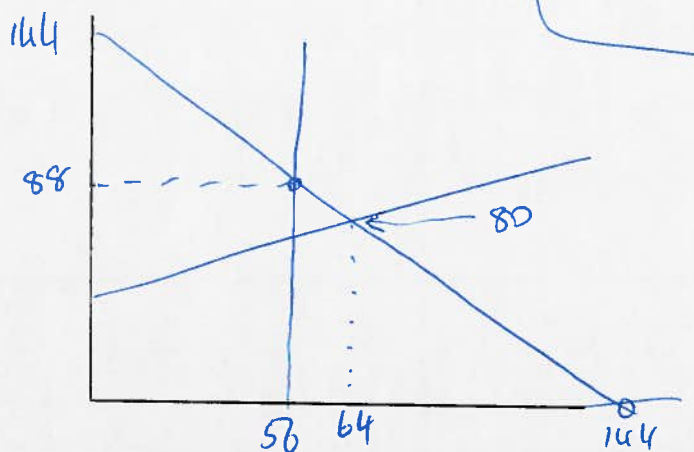
$P = 144 - 1Q$

$\therefore 96 = 1\frac{1}{2}Q$

$\therefore Q = 64$

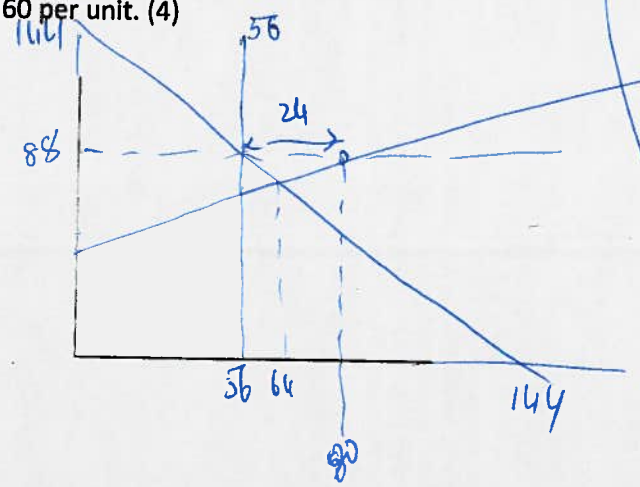
$P = 80$

(ii) If the government implements a quota of Q = 56 compute the price that will result in the market. (4)



supply

(iii) If instead of a quota the government sets a price floor equal to the price you obtain in part (ii) above, illustrate this graphically. Compute the net cost to the government if it has to buy up the excess supply at that price, and can sell its purchases on the international market for $60 per unit. (4)



$P = 48 + \frac{1}{2}Q$

$88 = 48 + \frac{1}{2}Q$

$40 = \frac{1}{2}Q$

$80 = Q$

88

$28 / unit loss × 24 = loss

46
168
234
672

loss