



Faculté des sciences exactes Faculté des sciences sociales

Département de science économique
Department of Economics

**ECO 1104B INTRODUCTION TO MICROECONOMICS
First Midterm Examination**

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Surname: ANSWER KEY

First name: _____

Student number: _____

INSTRUCTIONS

- a) The allotted time is 70 minutes. This examination counts for 20 % of your course grade. It consists of short answer questions and problems, and you should answer all of them. There are a total of 50 points.
- b) You may not consult with any written materials whatsoever, including other students' papers, and no conversation is permitted while the examination is in progress. Furthermore, no programmable calculators are permitted. Put away all i-phones and other similar electronic devices. Any contravention of these rules will be treated as an infraction to the honour code of the university.
- c) I do not anticipate that you will be pressed for time, so there is no need to panic.
- d) All of the questions which follow are straightforward, and most can be answered in two sentences. The responses that I hope to elicit have been repeated by me several times in class. Please take a minute to concentrate on the question being asked, as opposed to writing down everything which immediately comes to your mind about a certain topic. I have tried to pose the questions in such a way that you focus correctly.
- e) Write only in the space provided. For most of the questions that follow, you should write in sentences.
- f) Turn off all cellular telephones

PART A: INTRODUCTORY MATERIAL (12 points)

1.

a) Discuss in about three sentences the essence (or the core) of microeconomics. In other words, what is it all about in a nutshell? Include in your response the term 'resource allocation'.

It concerns the allocation of scarce resources among alternative uses. The resources consist of land, labour, and capital, while the uses consist of outputs in the form of goods and services. Resource allocation means how much (or what quantities) in the way of resources will go towards the production of which goods and services.

b) What are some the reasons why the so-called 'right-wing, free-market' types like the market based, capitalist system? In other words, what are thought (in theory and sometimes in practice) to be its advantages? Two reasons will suffice.

I gave you the following four features:

- **Dynamic – it is flexible and responds quickly to shocks such as changes in tastes and technology (changes in the economic environment)**
- **Efficient – shortages and surpluses are cleared up pretty quickly. Given the challenge of scarcity, output is maximized given the available inputs.**
- **Inegalitarian – conservatives claim that the pay outs of rewards and penalties are based on merit, which gives all producers (including workers) an incentive to be productive**
- **Decentralized – although right-wing, free market types might not mention this attribute, it is a key feature that gives rise to the system's dynamism and efficiency.**

Allocate 2 points to each reason. For each reason, + 1 for naming it, and + 1 for a little bit of explanation as to why conservatives cherish the system.

c) Briefly explain the essence of scientific method. What are its essential features, and what is its purpose in this course?

Its purpose in this course is to draw up conjectures that aim to explain some economic phenomena. A scientific approach involves showing proof to back up (support) these conjectures. These conjectures, also known as propositions or hypotheses, should be refutable, which means that they can either be proved or disproved. The scientist does not know the answer before he/she commences the investigation. The scientist should have a dispassionate disposition, which means that he/she is not carried away by his/her emotions and ideologies. They could mention that most of the time economists seek empirical validation of hypotheses, which involves observation of economic events and analysis based on data. (They do not have to mention empirical validation)

PART B: PRODUCTION AND EXCHANGE (15 points)

2. These questions concern the production possibilities frontier, also known as the transformation curve (4 points).

- a) Explain how a country might be able to expand its production possibilities frontier in the future.

By shifting the composition of output away from consumption goods towards capital goods. This implies investment spending on capital goods. By so doing, the productive capacity of the economy will be increased. This can also occur as a result of a technological advance that raises productivity levels. Recall that productivity = output / input.

- b) Assuming that the country is successful in expanding it, what would be the economic significance of that event?

Production Combinations that were once unattainable given the available land, labour, and capital inputs are not feasible. It implies an improvement in living standards. See Figure 2.6 in the textbook.

3. This problem is quite similar to one that is in the exercises. (11 points). The following table shows the units of output a worker can produce per day in Canada and China Although I showed you three ways, you only have to follow one of these ways, but you **MUST** explain our work.

	Shirts (units)	Wheat (bushels)
Canada	25	100
China	50	100

- a) China has the comparative advantage in the production of shirts. Demonstrate why that is the case.

Based on the approach of relative efficiencies, for Canada, the ratio is $100 / 25 = 4.0$. For China, the ratio is $100 / 50 = 2.0$. Canada has the comparative advantage in the production of wheat because it is four times more efficient in the production of wheat than it is in the production of shirts. For China the same ratio is lower at 2, so China produces wheat twice as efficiently as it produces shirts.

The opportunity cost of producing one more unit of wheat in terms of shirts forgone is $1 / 4$ ($25/100$) for Canada and $1 / 2$ ($50/100$) for China. Canada thus has the comparative advantage in the production of wheat since $1 / 4 < 1 / 2$.

The opportunity cost of producing one more shirt in terms of wheat forgone is 4 ($100/25$) for Canada and 2 ($100/50$) for China. China thus has the comparative advantage in the production of shirts since $2 < 4$. Note the

reciprocals in these two calculations of opportunity costs, which ought to make sense.

I answered this question three different ways, but you only need to do it one way.

Whether or not you have demonstrated that result above, explain what the countries should do next.

China should specialize in the production of shirts, export shirts and import wheat, while Canada should do the reverse. This question is a give-away.

b) According to the theory of comparative advantage, why are countries better off trading than they would be in the state of autarky? You should mention the transformation curve in your analysis, but don't draw one. Two sentences will suffice.

It allows for the society to reach consumption points that lie beyond the production possibilities frontier, which is the same thing as the transformation curve. By definition of the production possibilities frontier, in the absence of trade, it is infeasible to produce or to consume at points beyond it.

2 points, grade on sliding scale

They might respond by explaining the source of the gains from trade. Whether the economy is in autarky or in the free-trade regime, it must necessarily trade off production of one good versus production of the other good. That is basic principle # 1: people face tradeoffs. This rate of tradeoff is more favourable, which means that the opportunity cost is lower, in free trade. Both parties benefit, even when one is richer than the other.

c) I posted a document on the courseweb (just below the slides for chapter 2) whose title is "The pros and Cons of Free trade" in which I summarized the major points raised by the proponents and the opponents to liberalised (free) trade. Write two or three sentences that summarize the views of the anti-free-traders. (3 points)

In highly developed economies such as Canada's, it creates a lot of losers in the form of investors and workers in importing competing industries. It causes plant closures and puts downward pressure on the wages of workers in those industries. As such, it erodes the economic landscape and the social fabric of some geographical regions of Canada. It also undermines social programs. As far as the poorer trading partner is concerned, they are underpaid for what they export to Canada. An underlying theme of this perspective is that the rich and the powerful (individuals as well as corporations) always exploit the poor and the lower middle class, and international trade gives them but another vehicle to do so.

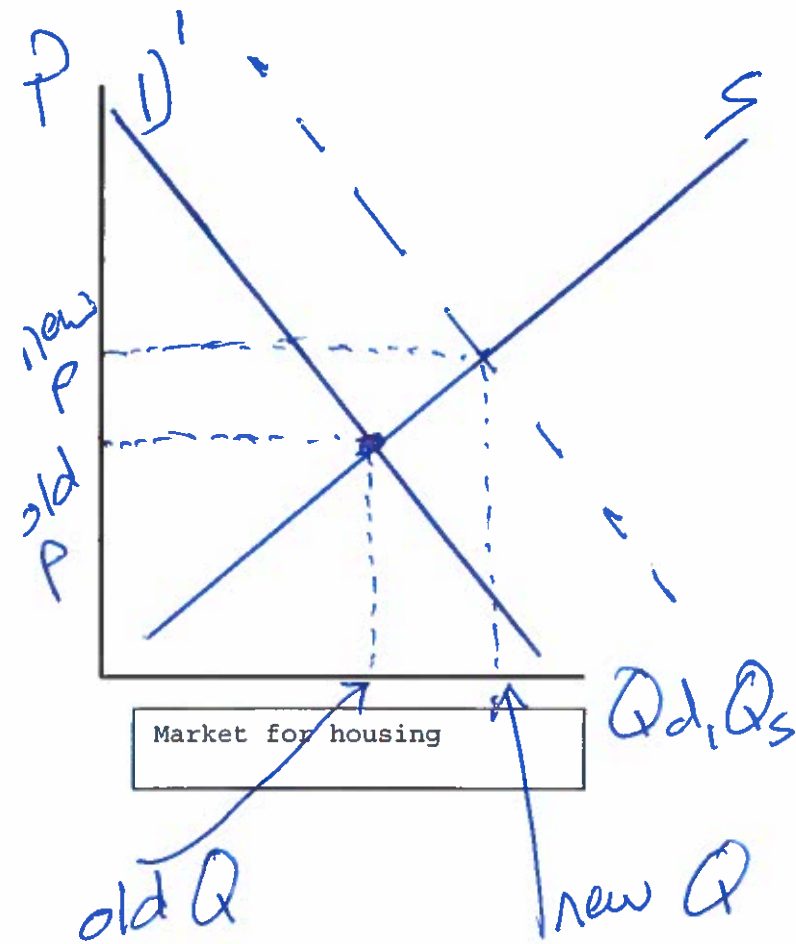
PART C Supply and Demand Analysis (13 points)

4. Probably no market that exists and operates in the Canadian economy have received more attention over the past decade than the housing markets, especially in Vancouver and Toronto. We are currently in the throes of an electoral campaign, and the government has announced policies that are designed to grant more Canadians access to 'affordable housing.' More specifically, it is possible for first-time home buyers to benefit from significant payments provided that they are spent on buying a house of some kind. Model the impact of this policy on the housing market. I have provided axes for you. Pay attention to the following details: (7 points)

- a) Label all curves and axes
- b) Indicate which curve(s) shift(s), if any, and explain verbally why.
- c) Determine what occurs to equilibrium price and quantity.
- d) Property and real estate developers never cease to complain that they are subject to excessive and costly regulations that restrict what and where they can build (these are called 'zoning regulations'). For example, for every new development in my neighbourhood, the developers want to build at least 8 floors, while city's zoning regulations stipulate that 6 floors is the maximum. Suppose that they get their way, and that these regulations are loosened. Without adding to your graph at all, which curve (if any) would shift in that case? Explain why. + 1 for part A; + 2 for proper shift of D curve; + 1 for explanation; + 1 for new equilibrium; + 2 for part D (+ 1 for correct shift, + 1 for explanation.)

PARTS B, C, AND D

The increased subsidy granted to would-be home and condo or apartment purchasers can be interpreted as an increase in incomes for a normal good. The Demand curve shifts to the right. At each possible price, quantity demanded is higher than before. Equilibrium price and equilibrium quantity ~~decrease~~ both increase. For part D, the supply curve will shift to the right, as the costs of construction will fall.



6. Generally speaking, what are two factors that would lead to an increase in supply? Explain why they have the effect of shifting the supply curve to the right. Do not draw a graph; this is a verbal question. (4 points) This is a new question that is separate from question # 5.

Costs of production decrease, which could be due to a fall in input prices. At each possible price, quantity supplied increases because the profitability has increased. Alternatively, at each possibly quantity, producers are willing to produce and sell at a lower price.

Technology improves, which increases productivity. At each possible price, quantity supplied increases because the profitability has increased. Alternatively, at each possibly quantity, producers are willing to produce and sell at a lower price.

The number of producers increases. At each possible price, quantity supplied increases directly. Alternatively, at each possibly quantity, producers are willing to produce and sell at a lower price.

2 points for any of these three factors. For each one, + 1 for naming it, + 1 for explaining it.

7. I emphatically went over the 11th commandment that “Thou shall not shift a demand curve due to a change in price!” Explain in words the reason for that law. (2 points)

Because the demand function relates the variables of price and quantity demanded holding those other factors that can influence demand (or quantity demanded) constant. If price changes, we are not obtaining a new functional relationship between those two variables.

PART D price elasticities (10 points)

8. Consider two points on the demand curve for cheese: point A (116,250, \$ 5.00) and point B (123,750, \$ 3.00). The unit for the cheese is kilograms sold per month. You should use a pocket calculator for this question. (8 points)

a) Calculate the price elasticity of demand between these points using the mid-point method. Show your work.

The price elasticity of demand = % change in quantity demanded / % change in price = [(change in quantity) / average quantity] / [(change in price) / average price] = (change in quantity / change in price) / (average price / average quantity) = (7,500 / - 2) / (4 / 120,000) = - 0.125 In absolute value terms, it is + 0.125

b) Does the law of demand apply in this case? Why or why not?

Yes, it certainly does, because there is a negative relationship between price and quantity demanded, which gives rise to a negative value for the slope and the price elasticity.

c) Is this value elastic or inelastic? Why?

Inelastic because it is less than 1.0 in absolute value. This is a very low price elasticity.

2 points: + 1 for answer, + 1 for explanation

d) Verify your answer in part c) by calculating the change in total revenue between these two points and applying the rule regarding the relationship between the variables of total revenue and the price elasticity of demand.

The TR at point A = $116,250 * \$ 5 = \$ 581,250$

The TR at point B = $123,750 * \$ 3 = \$ 371,250$

The price went down, and so did the total revenue, and so it is inelastic.

9. What is the one factor that I mentioned as determinant of the price elasticity of supply? In other words, what makes the difference between an elastic value and an inelastic value? (2 points)

If it is elastic (inelastic), it is relatively costless (costly) to shift the factors of production from one production line to another.