

e) All of the questions which follow are very straightforward, and can be answered in a few 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 comes to your mind about a certain topic. I have tried to pose the questions in such a way that you focus correctly.

d) Good luck. I anticipate that some of you will be pressed for time. Please pace yourself accordingly, and respond carefully. DO NOT SPEND TOO MUCH TIME ON ANY ONE QUESTION.

c) You may not consult with any written materials whatsoever, including other students' papers, and no conversation is permitted while the examination is in progress. The only electronic devices that are permitted are non-programmable calculators and dictionaries for students whose native tongue is not English. Any contravention of these rules will be treated as a case of academic fraud.

- b) Turn off all cellular telephones.
- a) The allotted time is 40 minutes. There are a total of 40 points, or one point per minute.

INSTRUCTIONS

Professor: David Gray

Fall 2013

SECOND MIDTERM EXAMINATION

ECO1104B: INTRODUCTION TO MICROECONOMICS

Student number: _____

Name: _____

KEY

PART I – SHORT ANSWER, CONCEPTUAL QUESTIONS

1) (4 points; 2-3 sentences) Identify and give the significance of the price elasticity of demand. In other words, what is its purpose? In still other words, why do we bother studying it? Do not give details concerning the price elasticity of demand, such as the formula that we use to calculate it. What I am looking for here is a brief discussion of how it fits in with supply and demand analysis.

IT IS A MEASURE OF THE RESPONSIVENESS OF CONSUMERS TO PRICE CHANGES. WE KNOW FROM THE LAW OF DEMAND THAT THERE IS AN INVERSE, OR A NEGATIVE RELATIONSHIP, BETWEEN PRICE AND QUANTITY DEMANDED. THE QUESTION OF BY HOW MUCH DOES QUANTITY DEMANDED RESPOND TO A CHANGE IN PRICE IS DETERMINED BY THE PRICE ELASTICITY OF DEMAND. ALTHOUGH THE QUESTION DID INDICATE THAT 2-3 SENTENCES WOULD SUFFICE, I SHOULD HAVE WRITTEN 1-2 SENTENCES.

2) (6 points) a) Explain why most economists tend to be very critical of interventions such as price floors and price ceilings. You do not need to give any graph. What I am looking for is an intuitive explanation of the economic behaviour that follows the imposition of these policies, and a description of the economic outcome.

TAMPERING WITH PRICES DISTORTS THE CHOICES OF BOTH SUPPLIERS AND DEMANDERS. BOTH SIDES OF THE MARKET REACT TO PRICE CHANGES BY ALTERING THEIR BEHAVIOUR, AND THEY DO SO IN A WAY THAT WORKS AGAINST THE INITIAL OBJECTIVE OF MAKING ONE PARTY BETTER OFF. MARKET IMBALANCES IN THE FORM OF SURPLUSES OR SHORTAGES ALWAYS ARISE. TRYING TO DEFEY THE NATURAL FORCES OF SUPPLY AND DEMAND ALWAYS HAS UNINTENDED – BUT PREDICTABLE – CONSEQUENCES. THIS QUESTION WAS ON LAST YEAR'S EXAM, WHICH WAS POSTED (WITH THE ANSWER) ON THE COURSEWEB.

b) What type of alternative policy instrument do economists recommend if the objective is to make a certain group of economic agents better off? In other words, what is a superior way of delivering aid to them?

TRANSFER A SUM OF MONEY TO THEM WITH NO STRINGS ATTACHED. THIS WAY THEY ARE BECOMING BETTER OFF WITHOUT INFUENCING THEIR ECONOMIC BEHAVIOUR AT ALL. IN THE CASE OF RENT CEILINGS, GIVE THE INTENDED BENEFICIARIES HOUSING ALLOWANCES. IN THE CASE OF PRICE FLOORS SUCH AS AGRICULTURAL PRICE SUPPORTS OR THE MINIMUM WAGE, GIVE THE FIRM ENOUGH MONEY IN ORDER TO REMAIN IN BUSINESS, OR GIVE THE WORKER AN INCOME SUPPLEMENT.

3. (8 points) Here is a problem concerning elasticities that are drawn from the textbook. For each of the following pairs of goods, which good would you expect to have more elastic demand, and why?

i) required textbooks (perhaps in university courses) versus mystery novels

MYSTERY NOVELS AS THEY ARE CONSIDERED TO BE A LUXURY, WHEREAS REQUIRED TEXTBOOKS ARE A NECESSITY FOR THOSE WHO ARE ENROLLED IN A COURSE.

ii) Beethoven recordings versus classical music recordings in general

BEEHOVEN RECORDINGS BECAUSE THERE ARE MANY MORE SUBSTITUTES AVAILABLE (IN THE FORM OF OTHER CLASSICAL MUSICAL COMPOSERS) THAN IS THE CLASS FOR ALL CLASSICAL MUSIC RECORDINGS PUT TOGETHER. THE MARKET FOR CLASSICAL MUSIC RECORDINGS HAS A PRETTY WIDE SCOPE, WHEREAS THE MARKET FOR BEEHOVEN RECORDING HAS A NARROW SCOPE.

iii) heating oil during the next six months versus heating oil during the next 5 years

HEATING OIL DURING THE NEXT 5 YEARS, BECAUSE THE TIME FRAME IS MUCH LONGER. THE PRICE ELASTICITY OF DEMAND OF ALMOST ANYTHING BECOMES MORE ELASTIC WITH THE PASSAGE OF TIME, AS THE CONSUMER CAN ADJUST HIS/HER BUYING HABITS.

iv) return tickets on the Eurostar train (from London to Paris and back) versus one-way tickets (from London to Paris). (This is my question drawn from my personal experience. The fare per kilometer for the return fare is much, much lower).

THE ROUND-TRIP OR RETURN FARE BECAUSE THOSE TRAVELLERS TYPICALLY ARE LEISURE TRAVELLERS WHO HAVE A LOT OF FLEXIBILITY IN THEIR TRAVEL DATES, AND OFTEN HAVE THE OPTION OF NOT TRAVELLING AT ALL. THOSE WHO ARE TRAVELLING ONLY ONE-WAY TYPICALLY HAVE LESS CHOICE IN THEIR TRAVEL DATES.

Value for the first bottle \$ 7
 Value for the second bottle \$ 5
 Value for the third bottle \$ 3
 Value for the fourth bottle \$ 1

The time frame is one day.
 It is a hot day, and Bert is thirsty. Here is the value that he places on drinking a bottle of water.
 5. (6 points) This problem is borrowed heavily from the textbook.

SCHEDULE
NOTHING, AS THERE IS NO INFORMATION REGARDING THE SUPPLY

(2 points)
 c) What can we say about the equilibrium quantity that will prevail in this market?

THE PRICE DECREASED AND TOTAL REVENUE INCREASED, WHICH IS CONSISTENT WITH PRICE ELASTIC DEMAND.

WHEN P = \$ 35, TR = P*Q = \$ 35*800 = \$ 28,000
 WHEN P = \$ 30, TR = P*Q = \$ 30*1000 = \$ 30,000

b) Calculate the gain or loss in total revenue as the price is lowered from \$ 35 to \$ 30. Based on this approach, is this elastic or inelastic demand? (3 points)

DEMAND.
VALUE TERMS. SINCE THIS VALUE > 1.0, IT IS PRICE ELASTIC
 $P = [200 / ((800 + 1000) / 2)] / [-5 / ((35 + 30) / 2)] = 1.44$ IN ABSOLUTE
% CHANGE IN QD / % CHANGE IN PRICE = [DELTA QD / QD] / [DELTA P / P]

a) Calculate the price elasticity of demand between the prices of \$ 35 and \$ 30. Is this elastic or inelastic demand? Show your work. (3 points)

price (\$ per unit)	Quantity demanded (units per year)
35	800
30	1,000
25	1,200
20	1,300

4. (8 points) The demand schedule for bulletin boards is as follows:

a) From this information, derive his demand schedule. Graph his demand curve for bottled water per day on the axes below.

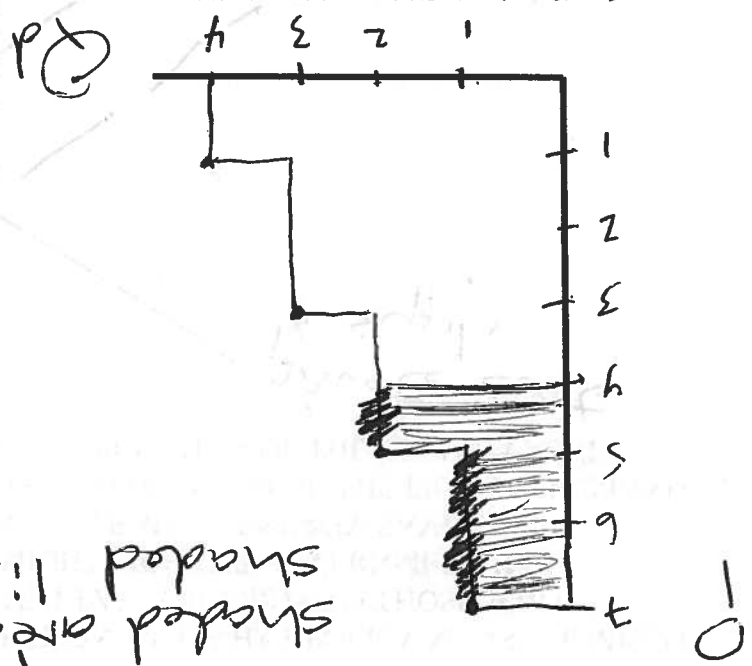
b) Suppose that the transactions price for a bottle of water is \$4. How many bottles will he buy? How much consumer surplus does he reap? Show Bert's consumer surplus on the graph.

Qd = 2 Bert will buy the first 2 bottles, as he values both of them more than he has to pay. Consumer surplus = 3 for the first unit (\$7 - \$4 = \$3) and 1 for the second unit (\$5 - \$4 = \$1), so the total value of consumer surplus = \$4.

c) How do we interpret consumer surplus? In other words, why do we both studying it at all? In other words, what is its purpose? In other words, what is its significance?

IT IS A MEASURE OF CONSUMER WELFARE OR WELL-BEING. IT IS THE DIFFERENCE BETWEEN THE CONSUMER'S WILLINGNESS TO PAY AND HIS/HER REQUIREMENT TO PAY. SO FAR IN THIS A COURSE IT IS USED TO COMPARE THE WELFARE LEVELS WHEN PRICE AND QUANTITY LEVELS CHANGE.

I will accept either the shaded area or the shaded line



6. (8 points) This problem is lifted straight out of the textbook. Consider the market for fire extinguishers.

a) The production of this good is thought to involve a positive externality. Explain in one or two sentences why this is the case.

PEOPLE WHO OWN BUILDINGS OR HOUSES THAT DON'T HAVE FIRE EXTINGUISHERS STILL BENEFIT FROM THEIR NEIGHBOR'S FIRE EXTINGUISHER TO THE EXTENT THAT WHEN THEY DO BREAK OUT, FIRES ARE LESS LIKELY TO SPREAD.

b) On the axes below, draw a graph of the market for fire extinguishers, and label the following curves: the private demand curve, the social-value curve, the supply (private cost) curve, and the social cost curve. (Huge, generous hint: one of them does not apply in this context).

c) Indicate the market equilibrium level of output and the socially efficient, or the optimal level of output. Give an intuitive explanation for why these quantities differ.

THE SOCIALLY EFFICIENT EQUILIBRIUM INCLUDES THE VALUE OF THE EXTERNAL BENEFIT, WHEREAS THE FREE MARKET EQUILIBRIUM DOES NOT. THE FREE MARKET EQUILIBRIUM INCLUDES ONLY THE PRIVATE BENEFIT. THE FREE MARKET EQUILIBRIUM REPRESENTS AN UNDER-PRODUCTION OF FIRE EXTINGUISHERS.

THE EXAM DID NOT POSE THIS QUESTION, BUT WHAT POLICY MEASURE MIGHT THE GOVERNMENT ADAPT? IT MIGHT PAY A SUBSIDY TO THOSE WHO PURCHASE FIRE EXTINGUISHERS, MIGHT LIKE THE GOVERNMENT HAS SUBSIDIZED PEOPLE (LIKE ME) WHO HAVE MADE ENERGY-SAVING RENOVATIONS TO THEIR HOMES. THAT WOULD CAUSE THE PRIVATE DEMAND CURVE TO SHIFT TO THE RIGHT IN THE DIRECTION OF THE SOCIAL VALUE

