

Homework 2

1. Name:

Directions:

I. Answer questions 1-4 (one point each)

II. Complete Problems 1.1, 1.3 and 1.5 from the workbook (**see clarification*) (two points each)

Questions 1, 2 and 3 are T/F questions. Question 4 is a multiple choice question.

1) According to the optimization principle, prices adjust until the amount that people demand of something is equal to the amount that is supplied.

2) At a price that is a little higher than the reservation price, a person is indifferent between purchasing or not purchasing the good.

****** Questions 3 & 4 are about the MODEL of a competitive market for apartments specified in Sections 1.1-1.5 of the textbook. (That is, the textbook's model of a competitive market for apartments with many renters and a short run supply curve.)

3) Suppose that the only change in the assumptions for the model is that a \$250 tax is imposed on the landlords (for each apartment they rent.) Then the renters will be required to pay more for their apartments.

4) Suppose that the only change in the assumptions for the model is that several of the inner-ring apartments are turned into condominiums. Then the equilibrium price

a) must remain unchanged.

b) must increase whenever all who purchased the condominiums previously lived in inner-ring apartments.

c) must increase whenever all who purchased the condominiums previously lived in outer-ring apartments.

d) must increase whenever some of those who purchased the condominiums previously lived in outer-ring apartments.

e) both (c) and (d) are correct.

***Statement of clarification for exercises from the workbook:**

The workbook assumes (on p. 1) that, at a person's reservation price, renting an inner-ring apartment is exactly as good (for that individual) as renting an outer-ring

apartment. Therefore, when the market price equals a person's reservation price, the person could potentially rent either an inner-ring apartment or an outer-ring apartment. Hence, when you are considering whether a particular price is an equilibrium price, any individual who has that price as his reservation price should be counted "twice" (that is both as someone who could choose to rent an inner-ring apartment and as someone who could choose to rent an outer-ring apartment). For example, if one person has a reservation price that is higher than any one else's reservation price, then at his reservation price the quantity demanded is taken to be both 0 and 1.

The Market

Introduction. The problems in this chapter examine some variations on the apartment market described in the text. In most of the problems we work with the true demand curve constructed from the reservation prices of the consumers rather than the “smoothed” demand curve that we used in the text.

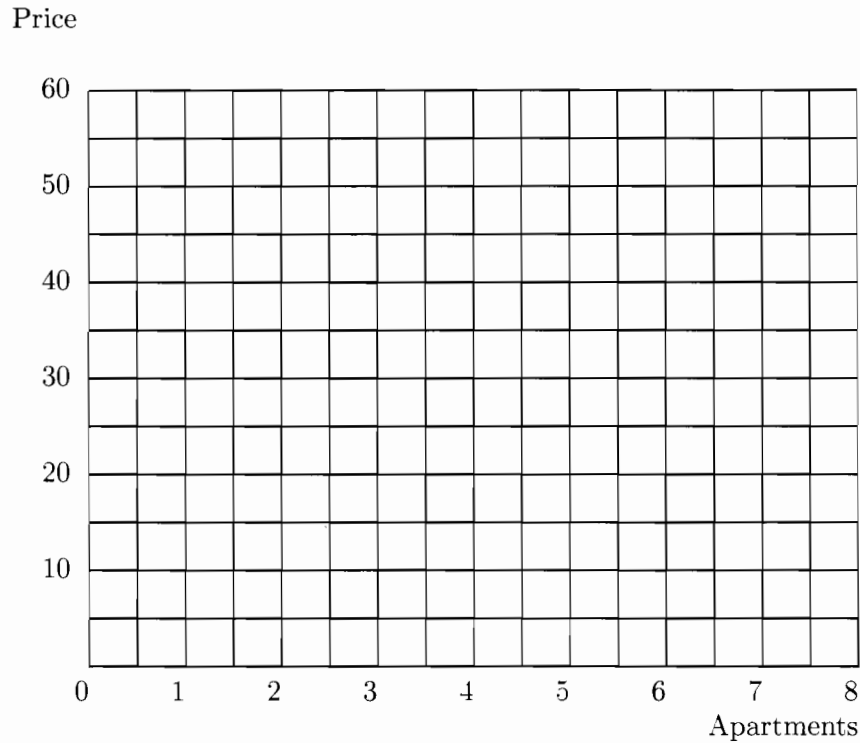
Remember that the reservation price of a consumer is that price where he is just indifferent between renting or not renting the apartment. At any price below the reservation price the consumer will demand one apartment, at any price above the reservation price the consumer will demand zero apartments, and exactly at the reservation price the consumer will be indifferent between having zero or one apartment.

You should also observe that when demand curves have the “staircase” shape used here, there will typically be a *range* of prices where supply equals demand. Thus we will ask for the the highest and lowest price in the range.

1.1 (3) Suppose that we have 8 people who want to rent an apartment. Their reservation prices are given below. (To keep the numbers small, think of these numbers as being daily rent payments.)

Person	=	A	B	C	D	E	F	G	H
Price	=	40	25	30	35	10	18	15	5

(a) Plot the market demand curve in the following graph. (Hint: When the market price is equal to some consumer i 's reservation price, there will be two different quantities of apartments demanded, since consumer i will be indifferent between having or not having an apartment.)



(b) Suppose the supply of apartments is fixed at 5 units. In this case there is a whole range of prices that will be equilibrium prices. What is the highest price that would make the demand for apartments equal to 5 units? _____.

(c) What is the lowest price that would make the market demand equal to 5 units? _____.

(d) With a supply of 4 apartments, which of the people A–H end up getting apartments? _____.

(e) What if the supply of apartments increases to 6 units. What is the range of equilibrium prices? _____.

1.3 (2) Suppose now that a monopolist owns all the apartments and that he is trying to determine which price and quantity maximize his revenues.

(a) Fill in the box with the maximum price and revenue that the monopolist can make if he rents 1, 2, ..., 8 apartments. (Assume that he must charge one price for all apartments.)

Number	1	2	3	4	5	6	7	8
Price								
Revenue								

(b) Which of the people A–F would get apartments?_____.

(c) If the monopolist were required by law to rent exactly 5 apartments, what price would he charge to maximize his revenue?_____.

(d) Who would get apartments?_____.

(e) If this landlord could charge each individual a different price, and he knew the reservation prices of all the individuals, what is the maximum revenue he could make if he rented all 5 apartments?_____.

(f) If 5 apartments were rented, which individuals would get the apartments?_____.

1.5 (2) In the text we argued that a tax on landlords would not get passed along to the renters. What would happen if instead the tax was imposed on renters?

(a) To answer this question, consider the group of people in Problem 1.1. What is the maximum that they would be willing to pay to the landlord if they each had to pay a \$5 tax on apartments to the city? Fill in the box below with these reservation prices.

Person	A	B	C	D	E	F	G	H
Reservation Price								

(b) Using this information determine the maximum equilibrium price if there are 5 apartments to be rented._____.

(c) Of course, the total price a renter pays consists of his or her rent plus the tax. This amount is_____.

(d) How does this compare to what happens if the tax is levied on the landlords?_____.