

Microeconomic Analysis
PROBLEM SET 1

Due at your first discussion section meeting the week of September 3rd

1. 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 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. (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 the apartment.)
- (b) Suppose that 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?
- (c) What is the lowest price that would make the demand for apartments equal to 5?
- (d) With a supply of 4 apartments, which of the people A-H end up getting the apartment? Explain.
- (e) What if the supply of apartments increase to 6 units. What is the range of equilibrium prices?
2. In 1999, after nearly 20 years of rent control in Berkeley, the elimination of the law led to an estimated rise in rents of 40%. Using supply-and-demand diagrams, illustrate how the law and then its elimination affected the rental housing market. Discuss the effects on the equilibrium rental price and the quantity of housing rented.

3. The New York Times reported in 1997 that a crackdown on a cocaine-smuggling ring caused cocaine prices in Manhattan to rise from \$20,000 to \$30,000 a kilogram. Illustrate in a supply-and-demand diagram why this happens and explain in words.

4. Three years ago you bought what was then a state-of -the-art computer for \$3,000. Today, you are deciding whether to buy a new computer that costs \$2,500. If you buy it, you can sell the old computer for \$600 to your gullible cousin. The old computer's future service is worth \$2,000 to you. The new computer's future service is worth \$3,000 to you. Should you buy the new computer? Explain.

5. It has cost \$16 billion for the government of Cimonoco to build a canal. If opened, it will generate \$400,000 a year in benefits but at an annual cost of \$500,000. Should it be opened? Wouldn't keeping it closed cause the \$16 billion to be wasted? Explain.

6. Acme Inc. sells its output at the market price of \$8 a unit. Each plant has the costs shown in the table below

Units of Output	Total Cost(\$)
0	8
1	10
2	14
3	20
4	28
5	38

Each plant wants to maximize profits. Calculate the amount of profits for each unit of output produced. How much output should each plant produce?