Economics 100A **Daniel McFadden**
Fall 2001 **Instructor**

Microeconomic Analysis
PROBLEM SET 1
ANSWERS

1.

(a) First, rank the persons in decreasing order of reservation prices. Then draw the demand curve for apartments. It should have the same shape as Figure 1.1 in Varian's book (page 5).

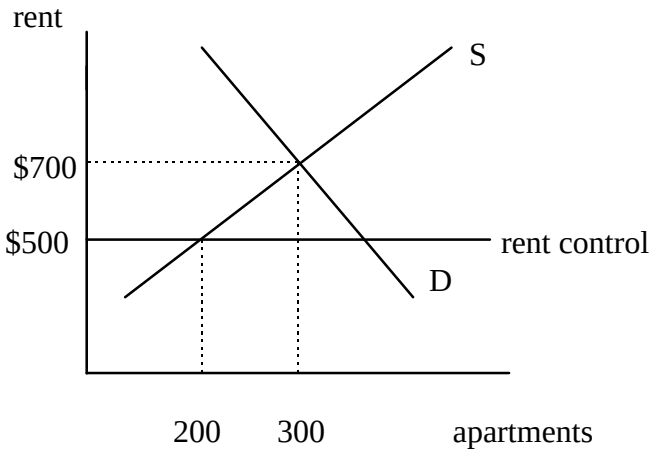
(b) $18.

(c) Anything above $15.

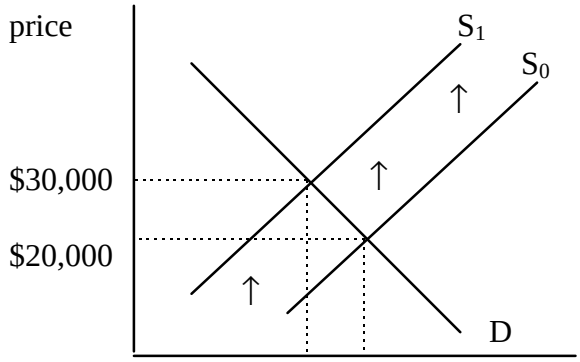
(d) A, D, C and B.

(e) $10 < price ≤ $15.

2. The elimination of the rent control is showed in the graph below. With the rent control, we had the rent at $500 and the number of apartments rented equal to 200. But with the rent control we had an excess demand (why?). When the rent control is eliminated the rent goes up to $700 and the number of apartments increase to 300. This happens because, with the new rental price, landlords will be willing to supply more apartments to be rented.



3. The crackdown can be expressed as a reduction in the supply of cocaine, producing a decrease in the quantity consumed and an increase in the price of cocaine per kilogram.



4. You have to compare the benefits to the costs of having the new computer. The benefits include $600 that you get from selling the old computer. Add to that the change in benefits from replacing the old with the new computer. This is the increase in the value of service:$1,000 (equal top $3,000 of future service from the new machine minus the $2,000 of future service from the old machine). So the benefits of the new computer are $1,600. Next calculate its cost. It is $2,500. So the benefits are less than the cost, and you should keep the old machine for now.

5. It should not be opened as it can't cover its current cost. The $16 billion is a sunk cost: it has already been wasted, whether the canal opens or not.

6. There are two ways of answering this question. You can just calculate the profit level by using the definition of profits = revenue - total costs, where revenue is equal to price times quantity produced. Alternatively you may use the profit-maximizing rule that we learned in econ 1, that is MR=MC. Both ways are shown in the table below. Notice that you could produce 3 or 4 units of output. Both would yield $4 of profits.

Units of Output	Total Cost ($)	Revenue (P*Q)	Profits ($)	MC ($)	MR ($)
0	8	0	-8		
1	10	8	-2	2	8
2	14	16	2	4	8
3	20	24	4	6	8
4	28	32	4	8	8
5	38	40	2	10	8