

Microeconomics I

Homework 1

Question 1.

Suppose that there were 25 people who had a reservation price of \$500, and the 26th person had a reservation price of \$200. What would the demand curve look like? What would the equilibrium price be if there were 24 apartments to rent, i.e. a fixed supply of 24 apartments?

Question 2.

Suppose a monopolist is facing the demand curve is $D(p)=100-2p$ and has zero total costs. What price and what quantity would the monopolist choose? How much profit will he make?

Question 3.

You have an income of \$40 to spend on two commodities. Commodity 1 costs \$10 per unit, and Commodity 2 costs \$5 per unit.

- Write down your budget equation, and draw the feasible choice set. What is the slope of the budget line.
- If you spent all your income on Commodity 1, how much could you buy?
- If you spent all your income on Commodity 2, how much could you buy?
- Suppose the price of Commodity 1 falls to \$5, while everything else stays the same. Write down the new budget equation. Draw the new budget line.
- Suppose your income falls to \$30, while the prices of both commodities remain at \$5. Write down the new budget equation.

Question 4.

Your budget is such that if you spend all your money, you can afford either 4 units of good x and 6 units of good y; or 12 units of x and 2 units of y.

- Draw the budget line on a graph.
- What is the slope of the budget line? How would you interpret it?
- If you spend all money on x, how much x could you buy?
- If you spend all money on y, how much y could you buy?
- Write the equation this budget line, where the price of x is 1.
- Write a budget equation that gives you the same budget line, but where the price of x is 3.

Question 5.

Suppose that a budget equation is $5x+2y=10$. The government decides to impose a quantity tax of t on good x, and a value (ad valorem) tax of s on good y. Write the formula of the new budget line.