

MICROECONOMIC PROBLEMS

CLASS #6

Problem 1

Draw a graph representing the situation of an entrepreneur enjoying a monopolistic market structure. Do not forget about marginal cost (MC), average cost (AC=ATC) as well as average (AR) and marginal (MR) revenues.

Mark on this graph:

- a) Profit maximising output.
- b) Profit maximising price.
- c) Total costs, when company maximises the profits.
- d) Equilibrium profits.

Problem 2

In a monopolistic environment it is true for the optimal production level that:

- a) $MR=MC$ – yes/no (and why!)
- b) $MC=AR$ – yes/no (and why!)
- c) $MC=ATC$ – yes/no (and why!)
- d) $ACT=AR$ – yes/no (and why!)
- e) $ATC=MR$ – yes/no (and why!)

Problem 3

A very popular writer decided to handle himself publishing and distributing his latest novel. He assumes that demand for his book is given by $Q=2000-100p$. He also knows that the costs associated with beginning the printing amount to \$1000, while a marginal cost of printing and disseminating every copy may be lowered to \$4. How many copies and at what price should he to maximize the profits? What is the profit at the optimal output level? Is that a good example for a monopolist?

Problem 4

A monopolist has the following production function: $Q=65-0.5p$, while his costs are given by $TC=A+10Q$, where A is a simple fixed cost. What is the maximum value of A to have any production whatsoever?

Problem 5

Explain, why a monopolist will never choose production level where demand is not elastic, that is where the absolute value of the price elasticity falls short of unity? *Hint:* use the equation representing the relation between marginal costs, the product and the elasticity at the producer's optimum (the so-called Lerner condition).

Problem 6

What will be the impact of tax on profits on price and quantity under a monopoly (discuss)?

Problem 7

If $D(p) = 100/p$ and $c(y)=y^2$, what is the optimal level of output of the monopolist? (Be careful!!!)

Problem 8

A monopolist faces a demand curve of the form $x=10/p$, and has a constant marginal cost of 1. What is the profit maximising level of output?