

Homework 21

Due April 10, 2018

Homework must be on the instructor's desk at K9 by 15:10. Papers turned in from 15:11 till 15:40 will be accepted at a penalty of 10 points. Submissions at any other time or manner will be ignored. Any paper which does not resemble a work by a student of a world-class institution (not clean, illegible, unnamed, unstapled, unlabeled tasks, final results not in boxes etc.) will be penalized with up to 50 points at the discretion of the grader.* Copying in homework will be penalized with a 0 in that assignment plus 0 in the previous submitted assignment. Students who give their homework away for others to copy from will be penalized with 0s in the past 3 assignments and a reprimand for unethical behavior will be added to their permanent public student records.

1. Consider a monopoly platform with two sides: A and B. Marginal costs for the platform are equal to 20. In order to increase number of transactions by 1% the fee for side A should be decreased by 3%. It is also known that the absolute value of elasticity of demand for side B transactions is 0.5.
 - (a) What are the equilibrium fees for both sides? [15p]
 - (b) Give a definition of the two-sided platform. Can firms be considered as two-sided platforms? Explain why. [15p]

2. [The following question is a revising question based on already taught material]. Consider an industry with one manufacturer and two retailers of some good. Demand for the good is $Q = 100 - P$. Marginal costs for the manufacturer are 25. The retailers should pay price m per unit of good to the manufacturer and incur some additional average costs. Firm's 1 additional costs are 10 and firm's 2 are 20.
 - (a) If the manufacturer cannot discriminate between retailers and the latter compete by setting quantities, what are the equilibrium prices (intermediate and final) and profits for each firm? [20p]
 - (b) Find equilibrium prices and quantities if the manufacturer can use third-degree price discrimination. [20p]
 - (c) What is the equilibrium if retailers simultaneously set prices and the manufacturer can discriminate? Does the manufacturer's profit increase in case of discrimination? [20p]
 - (d) What fee the manufacturer is ready to pay in order to acquire both retailers (in both cases (b) and (c))? [10p]

* Last year, the head of recruiting at BCG told us in the 'Professionalism Short-course' that nearly 25% of the job candidates send their applications with cover letters that are addressed to different employers or with important mistakes (digits missing in phone number, typos, grammatical mistakes etc.). She said: *"We do not even bother to save a file for those applicants. They go directly to the trash bin. If they were not taught at school to write their name, to supply a decent document that one can read and to know the name of the company they want to work for, they will -for sure- embarrass us to our clients; therefore, they do not deserve a job here."* – Doing a good job should not be a choice, should be a habit. This is how you build your brand... this is how you gain personal value.

Estimated completion time: 100 min

Difficulty level (normalized to UoL standards): 1. 4/5 2. 5/5