Information Economics, Fall 2016
Pre-lecture Problems 5

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Note 1. The deadline of submitting the pre-lecture problem is ***9:20am, October 17, 2015***. Please submit a hard copy of your work to the instructor in class. Late submissions will not be accepted. Each student must submit her/his individual work. Submit ONLY the problem that counts for grades.

Note 2. Please make your answer as clear (i.e., easy to read) as possible. We reserve the right to take away points when the correctness cannot be easily determined (e.g., when the writing is messy and cannot be easily understood).

1. (0 points) Consider Section 2 "Exogenous product quality" in the handout. Assume that θ is uniformly distributed over $[a, b]$, find the seller's optimal price and equilibrium profit.

2. (0 points) Consider Section 4 "Two products" in the handout.

   (a) It is claimed that when $\bar{\theta} > \theta_2$, all consumers whose type $\theta \geq \bar{\theta}$ will prefer buying product 1 then buying nothing. This is equivalent to say that $\bar{\theta} > \theta_1$. Please verify that $\bar{\theta} > \theta_2$ does imply $\bar{\theta} > \theta_1$.

   (b) For the three values θ_1, θ_2, $th\bar{e}ta$, there should be six ways to order them. Nevertheless, four of them are self-contradicting and cannot exist in equilibrium. Show that only the two mentioned in the handout are possible.

3. (10 points with 5 bonus points) Consider the online in-store referral and grocery deliver platform problems. Do one of the following two problems:

   (a) Find one real-world example of one-way or two-way online in-store referral. List the website names, product names, and links of the products. You may want to print screens to show evidence of referrals. Finally, explain how the websites price the referral services.

   (b) Find one real-world company that runs a deliver platform. It does not need to be grocery delivery, but it must deliver something by a two-sided mechanism. Provide a link to its website or app. Describe its operation model, pricing plan for consumers, and compensation plan for shoppers/deliverers.

   If you do both problems, 5 bonus points will be given.