Homework 6

due 4/16/2012

Problem 1 A seller has one unit of a good which she may sell to a buyer. The seller has private information about her valuation of the good, v, which is drawn from $[0,1]$ according to the uniform distribution. When the seller's valuation of the good is v, the buyer's valuation is kv, where $k > 1$. The buyer does not observe his valuation, however, but does have accurate knowledge of the distribution of the seller's valuation. Both players are risk-neutral.

a. Suppose that the buyer makes a take-it-or-leave-it offer to the seller. That is, the buyer offers a price at which he is willing to buy, the seller either accepts or rejects, and rejection results in no sale. Describe all subgame perfect equilibria in pure strategies. How does your analysis depend on the value of k?

b. Suppose now that the seller makes a take-it-or-leave-it offer. That is, the seller charges a price, the buyer either accepts or rejects, and rejection results in no sale. Describe all perfect Bayesian equilibria in pure strategies. How does your analysis depend on the value of k?

Problem 2 MWG 13.B.1

Problem 3 MWG 13.B.3

Problem 4 MWG 13.C.1

Problem 5 Suppose that normal workers increase a firm's revenue by \$$X$, while smart workers increase revenue by \$$A$, where $A > X$. Firms cannot tell smart workers from normal workers *ex ante*, but can observe a worker's educational level.

Any worker can acquire as much education as she wishes, but getting e years costs a normal worker $B * e$, where $B > 1$, while e years cost a smart worker only e.

a. Describe the unique separating equilibrium which satisfies the inutitive criterion.

b. As A increases, does the level of education obtained by smart workers increase or decrease in the equilibrium described in part a.? Explain intuitively why this is the case.

c. As B increases, does the level of education obtained by smart workers increase or decrease? Explain intuitively why this is the case.

Problem 6 A house painter has a regular contract to work for a builder. On these jobs, his cost estimates are generally right: sometimes a little high, sometimes a little low, but correct on average. When his regular work is slack, he bids competitively for other jobs. "Those are different," he says. "They almost always end up costing more than I estimate." If we assume that his estimating skills do not differ between the two types of jobs, what can explain the difference?