個經作業 (古慧雯)

1. Landsburg, Ch.10, N2 (numerical exercise).
2. Landsburg, Ch.10, N3 (numerical exercise).
3. Landsburg, #6.(Consider that MR decreases in q and MC increases in q.)
4. Landsburg, #18.
5. Suppose you are the monopoly owner of a movie theater. You can provide popcorn at a marginal cost of \$4 per bag. It costs you nothing to allow people to enter the theater. You have two customers, Gene and Roger. Gene is willing to pay up to \$28 to see the movie, and Roger is willing to pay up to \$10. Gene never buys popcorn under any circumstances. Roger's demand for popcorn in a theater is:

   $$q = 12 - p,$$

   where q denotes bag(s) of popcorn and p is the price of a bag of popcorn. (Both are allowed to be non-integers in this problem.) A strict rule is enforced to ban outside food in the theater. You have to decide how to charge for popcorn and the admission price to maximize profit.

   (a) Suppose you charge \$8 for a bag of popcorn, what is the highest admission price you can charge if you're determined to keep both customers?

   (b) At optimal, will you charge an admission price that drives Roger away? Why? Argue rigorously.

   (c) At optimal, will you charge an admission price that drives Gene away? Why? Argue rigorously.

   (d) Please solve for the optimal prices for popcorn and theater admission.

6. A writer just finishes with a book and the market demand for his book is:

   $$q = 100 - p.$$

A publisher bears a unit cost of \$10 to print and sell a copy, and he proposes to give the writer a royalty f, i.e. the writer will receive $f * TR$, where TR stands for the total revenue. The publisher alone will decide how many copies to print.

(a) How much does the writer expect the publisher to charge the readers for a copy of his book? (Hint: p is a function of f.)

(b) If there are many publishers interested in signing a sales contract with the author, what will be the equilibrium royalty? (Hint: I used Excel to find the solution numerically. Give an answer with precision up to the 2nd digit after the decimal point.)

7. 獨占廠商 A 有 B、C 兩位顧客。A 的成本爲0, A 求總收入之極大。B、C 的需求反函數如下, (本題考慮不連續的單位數):

	需求反函數 ($p(q)$)	
數量 (q)	B	C
1	10	11
2	9	5

(a) 若 A 採單一訂價, 他總共會賣幾單位?

(b) A 考慮另一種定價方式: 買1件 \$$x$, 買2件共 \$$y$。

i. 若要讓 B 選擇買2件, x、y 必須滿足那兩條限制式?

ii. 若要讓 C 選擇買1件, x、y 必須滿足那兩條限制式?

iii. 在讓 B 選買2件, C 選買1件的前提下, 最適的 x、y 爲何?

iv. 可能安排出 B 選買1件, C 選買2件嗎?

v. 請問最適的 x, y 爲何?