

## 個經作業

1. Landsburg, Ch.10, N2 (numerical exercise).
2. Landsburg, Ch.10, N3 (numerical exercise).
3. Landsburg, Ch. 10, #18.
4. 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.
5. 獨占廠商  $A$  有  $B, C$  兩位顧客。 $A$  的成本為 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):

數量 ( $q$ )	需求反函數 ( $p(q)$ )	
	$B$	$C$
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  $x, y$  為何?
  - iv. 可能安排出  $B$  選買1件,  $C$  選買2件嗎?
  - v. 請問最適的  $x, y$  為何?