

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?