科目：個體經濟學　組別：　考試日期：84年 5月 17日

一、何謂恩格~~爾~~曲線(Engel Curve)？何謂所得消費曲線(Income Consumption Curve)？如何利用它們來判別財貨的性質？ 10分

二、馬夏爾(Marshall)、史路斯基(Slutsky)、及席克斯(Hicks)三種需求曲線有何差異？ 10分

三、經濟學通常用什麼工具衡量市場壟斷力量的大小？ 10分

四、某先生之效用函數為 $U = X_1 X_2^2$，U 為效用，X_1，X_2 為財貨1、2之消費量。試求財貨1之市場需求函數(Market demand function)及補償性需求函數(Compensating demand function)，並說明二需求函數意義上之不同。 20分

五、(25 points)

(1) A monopolist faces demand curve $q = 1 - p$ in each of two periods (A and B). Its unit cost is c in period A and $c - \beta q^A$ in period B, where q^A is the first-period output (the firm learns by doing). The discount factor between the periods is $\delta = 1$.

Show that the first-period output is $d/(2-\beta)$, where $d \equiv 1 - c$.

(2) Suppose now that the monopolist (firm 1) faces an entrant (firm 2, with unit cost c) in the second period. They play Cournot competition, which yield profit $\pi_i^B = (1 + c_j^B - 2c_i^B)^2/9$ and outputs $q_i^B = (1 + c_j^B - 2c_i^B)/3$.

Write the first-order conditions determining q_1^A when (a) q_1^A is not observed by the entrant before second-period competition and (b) q_1^A is observed by the entrant.

In which case is the monopolist's first-period output higher?

六、(25 points)

Two firms ($i = 1,2$) produce one good each, at marginal cost c ($i = 1,2$). Each firm has a monopoly power in the production of its good. The goods are perfect complements. The demand curve is $q = D(p)$, where $p \equiv p_1 + p_2$ is the price of the composite good and p is the price of good i ($i = 1,2$). Let $c \equiv c_1 + c_2$.

(1) What is the optimal p for the horizontally integrated structure?

(2) Consider the non-integrated structure. Suppose that firm 1 chooses its price first and takes into account the effect of its choice on firm 2's price. Show that the Lerner index is higher than under integration.

(3) Suppose now that the two firms choose their prices simultaneously. Assume that each firm maximizes its profit given the other firm's price. Show that the Lerner index is even higher than in the case of sequential choice of prices.