

編號: E-398

系所: 交通管理科學系甲組、乙組

科目: 經濟學

本試題是否可以使用計算機: 可使用, 不可使用 (請命題老師勾選)

填充題 (每格 5 分, 共 20 格)

1.

Consider the indirect utility function given by

$$v(p_1, p_2, I) = \frac{I}{p_1 + p_2}$$

(a) What are the demand functions $x_1(p_1, p_2, I) =$ _____,
 $x_2(p_1, p_2, I) =$ _____?(b) Find the expenditure function $E(p_1, p_2, U_0) =$ _____.(c) Derive the direct utility function $U(x_1, x_2) =$ _____.

2.

A consumer purchases two goods with a utility function $U(x_1, x_2) = X_1^{0.5} X_2^{0.5}$. The prices and income are $p_1 = 1$, $p_2 = 1$ and $I = 10$, respectively. Suppose that the price of good 1 increases to $p'_1 = 2$. Calculate the following three impacts on consumer's welfare due to this price change.(a) What is the change in Consumer Surplus $\Delta CS =$ _____?(b) Compensated Variation is defined by "the quantity of income needed to be changed under the new prices, in order to maintain the original utility level before the prices change". What is $CV =$ _____?(c) Equivalence Variation is defined by "the quantity of income needed to be changed before the prices change, in order to have the utility level under the new prices". What is $EV =$ _____?

3.

Two firms (A and B) are considering bringing out competing brands of a healthy cigarette. Payoffs to the companies are shown in the table (A's profits are given first):

		Firm Produce	B Don't Produce
Firm A	Produce	3, 3	5, 4
	Don't Produce	4, 5	2, 2

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- (a) Does this game have a Nash equilibrium (_____ , _____)?
- (b) What is the Nash equilibrium (_____ , _____) if firm *A* has first-mover advantages?
- (c) Suppose that firm *A* moves first. Would firm *B* find it in its interest to bribe firm *A* enough to stay out of the market (YES, NO)?

4.

Suppose there are a fixed number of 1,000 identical firms in the perfect competitive concrete pipe industry. Each firm produces the fraction of total market output, and each firm's production function for the pipe is given by $q = \sqrt{KL}$. Suppose also that the market demand for pipe is given by $Q = 400,000 - 100,000P$, where Q is total concrete pipe.

- (a) If $w = v = \$1$, in what ratio will the typical firm use K and L ? $K/L =$ _____ ? What will be the long-run average and marginal cost of pipe $AC =$ _____ , $MC =$ _____ ?
- (b) In long-run equilibrium what will be the market equilibrium price and quantity for concrete pipe $P =$ _____ , $Q =$ _____ ? How much labor will be hired by each firm and in the market as a whole _____ , _____ ?

5.

Consider an individual who lives for two periods, earns a nominal income of \$1,000 in each period, and has zero initial and terminal assets. The nominal interest rate, R , on dollar loans is 15%, and the expected rate of inflation, π^e , between the two periods is 10%. Assume that the price level in the first period is 1.

- (a) What is the real value of period 1 income _____ goods?
- (b) What is the maximum amount of dollars that could be borrowed in period 1 \$ _____ ? Find the real value of this amount, and add it to the real value of period 1 income to see the maximum amount of (real) consumption possible in period 1 _____ goods.
- (c) What are the price level in period 2 and the real value of period 2 income \$ _____ , _____ goods.

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- (d) What is the maximum amount of dollars that can be obtained in period 2 by saving in period 1 \$ _____? Find the real value (in period 2) of this amount, and add it to the real value of period 2 income to see the maximum amount of (real) consumption possible in period 2 _____ goods.