

(不可使用計算機，若有小數點，計算至小數點後二位。)

1.

(1) (5 points) A consumer owns good 1 and good 2 and trades these two goods with other consumers in perfectly competitive markets. Denote his endowments of these two goods as  $\omega_1$  and  $\omega_2$ , and his consumption as  $x_1$  and  $x_2$ . The prices of good 1 and good 2 are  $p_1$  and  $p_2$ , respectively. Write down the Slutsky equation when  $p_1$  changes.

(2) (15 points) Suppose explicitly that this consumer's preferences are represented by the utility function  $U(x_1, x_2) = \frac{1}{3} \ln x_1 + \frac{2}{3} \ln x_2$ . His endowments are  $\omega_1 = 10$  and  $\omega_2 = 8$  and the original market prices are  $p_1 = \$3$  and  $p_2 = \$12$ . Now  $p_1$  increases to \$6. Please find:

- (a) The changes in consumption that are attributed to the substitution effect.
- (b) The changes in consumption that are attributed to the ordinary income effect.
- (c) The changes in consumption that are attributed to the endowment income effect.

2.

- (1) (8 points) Explain that English auctions can attain Pareto efficiency.
- (2) (7 points) If a consumer spends all of his income, then it is impossible that all of the goods that he consumes are inferior goods. Explain.

3.

Suppose that the market demand function of an oligopoly is  $p(y_1 + y_2) = 120 - 4(y_1 + y_2)$ , where  $y_1$  and  $y_2$  are the outputs of firm 1 and firm 2, respectively. Suppose also for simplicity that the costs of producing  $y_1$  and  $y_2$  are zero.

- (1) (7 points) Find the Cournot equilibrium.
- (2) (8 points) Suppose that firm 1 is a leader and firm 2 is a follower. Find the Stackelberg equilibrium.

1. (10 points) Explain under what conditions a group of countries with different capital-to-labor ratios and different levels of per worker output will “converge” in the basic Solow model. Does the empirical evidence support the convergence prediction? Explain.
  
2. (15 points) What is the difference between the traditional “Keynesian” consumption function and the permanent income hypothesis. What determines the level of current consumption in each model. What is the difference between “permanent” and “transitory” income, and how should households respond to them in each model?
  
3. (10 points) What are the macroeconomic effects when stock prices continue to fall? (Hint: start from wealth effect and Tobin’s q-theory)
  
4. (15 points) Briefly define and discuss the significance of the following concepts :
  - a) J curve
  - b) Ricardo-Barro Effect
  - c) the efficiency wage