

Econ 2300 Assignment 2  
 due : Wednesday March 24 2004, 10.30 a.m.

answer all **5** questions : all count equally

1. The following table lists, for 3 different years, the prices of two goods, the person's income, and the quantities she chose to consume of the two goods.

year	$p_1$	$p_2$	$m$	$x_1$	$x_2$
1	10	1	134	12	14
2	3	3	81	15	12
3	1	5	80	30	10

Do the person's choices satisfy the strong axiom of revealed preference? Explain briefly.

2. Calculate the Laspeyres and Paasche quantity indices if the prices of three goods, and the quantities consumed of the three goods are listed in the table below. Can you tell in which year the consumer is better off?

year	$p_1$	$p_2$	$p_3$	$x_1$	$x_2$	$x_3$
base	10	1	1	5	5	10
current	5	3	3	15	2	5

3. Calculate the compensated derivative of quantity demanded for good 1, with respect to its own price  $p_1$  ( that is  $\frac{\partial x_1}{\partial p_1}|_{comp}$  ), for a person whose preferences can be represented by the utility function

$$U(x_1, x_2) = x_1 + 2\sqrt{x_2}$$

4. Suppose that a household produces some food, and some clothing, on its own. Its endowment vector is (10, 12), where the first number is the quantity of food and the second number is the quantity of clothing. If the price vector  $(p_1, p_2)$  for food and clothing is (4, 5), the household chooses the consumption bundle (8, 13.6).

Would an increase in the price of food from 4 to 5 make the household better off? Would an increase in the price of clothing from 5 to 10 make the household better off?

5. Suppose that a person works 40 hours a week, and that she would reduce these hours worked by 2 hour for every additional \$100 per week that she received in exogenous income.

Suppose as well that the derivative of her **compensated** demand for leisure ( measured in hours per week ), with respect to her hourly wage rate is  $-1$ .

Would she work more or fewer hours if her hourly wage were to increase? Explain briefly.