

Microeconomics

Fall 2011

Class #6: Consumer Theory: optimal choice.

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Classes: 40, 41

Question 1

Laurent wants to be happy. He consumes only fruits and fishes. The marginal utility of fruits is 3, and the marginal utility of fishes is 5. Laurent buys fishes in the market at 4€ per kilo, and fruits in the near shop at 2€ per kilo. Can we tell him, basing only on the above information, what should he do in order to maximize his happiness?

Question 2

A consumer buys two goods: x and y . His utility function is given by $U(x, y) = x^{0.5}y^{0.5}$ and his income is 16,000€. Let p_x and p_y denote the prices of good x and good y , respectively.

- (i) Calculate the $MRS_{x,y}(x, y)$. Explain the effect on the Marginal Rate of Substitution of an increase on the consumption of good x .
- (ii) What is the demand of this consumer for the good x ? And for the good y ?
- (iii) Suppose that $p_x = 20€$ and $p_y = 10€$. How will the budget constraint change if p_x increases by 25%? And what will be the change in the demand of good x ?

Question 3

Eva has 20€. She can spend her income only on black (x) or blue (y) shirts, that are treated as perfect substitutes. However, Eva gets the double of the utility when she wears a black shirt as compared to a blue shirt. One black shirt costs 4€, while a blue one costs 1€.

- (i) Propose a utility function that describes these preferences.
- (ii) Graph Eva's budget constraint and her indifference curves.
- (iii) How many shirts of each color will Eva buy in order to maximize her satisfaction from the consumption?