

CONSUMER PREFERENCES

Problem #1

- a) Mr. A.'s preferences may be approximated by function $U = X_1X_2$, while Mr. B.'s preferences – by function $U = X_1^{0.1}X_2^{0.5}$. Each of them consumes 2 units of good #1 and 2 units of good #2. What can we say about Mr. A.'s and Mr. B.'s preferences?
- b) What will happen when bundles of goods change and Mr. B. will consume 2 units of good #1 and 12 units of good #2?

Problem #2

- a) Mr. C.'s preferences may be approximated by function $U = \min(X_1, 2X_2)$, while Mr. D.'s preferences – by function $U = X_1^{0.3}X_2^{0.3}$. Each of them consumes 2 units of good #1 and 2 units of good #2. What can we say about Mr. C.'s and Mr. D.'s preferences?
- b) What will happen when bundles of goods change and Mr. C. will consume 3 units of good #1 and 12 units of good #2, while Mr. D. will consume 1 unit of good #1 and 5 units of good #2?

Problem #3

- a) Mr. E.'s preferences may be approximated by function $U = X_1^{1/3}X_2^{2/3}$, while Mr. F.'s preferences – by function $U = 3X_1 + X_2$. Each of them consumes 2 units of good #1 and 2 units of good #2. What can we say about Mr. E.'s and Mr. F.'s preferences?
- b) What will happen when bundles of goods change and Mr. E. will consume 3 units of good #1 and 12 units of good #2, while Mr. F. will consume 8 units of good #1 and 1 unit of good #2?

Problem #4

Assume that a single indifference curve reflecting Mr. G.'s preferences may be approximated by the formula $X_2 = 1000/X_1$.

- a) If Mr. G. consumes 20 units of good #1, how much good #2 must he consume so that his choice bundle remains on this indifference curve?
- b) Find the slope of the indifference curve for this point.
- c) If we propose Mr. G. to exchange goods #1 and #2 according to the ratio 1:3 (3 units of good #1 for 1 unit of good #2), will he agree to trade under such conditions?
- d) Graph the indifference curve and on the basis of the graph demonstrate that the law of diminishing marginal rate of substitution operates in this case.