

Exercises # 1

Problem 1: For each of the following axioms, provide its definition, explain its economic meaning (if any), and provide a counter-example of preferences that do not satisfy the axiom at hand:

- a) completeness
- b) transitivity
- c) monotonicity
- d) local non-satiation
- e) convexity
- f) differentiability
- g) homotheticity
- h) quasi-linearity

Problem 2: Consider the CES (constant elasticity of substitution) utility function

$$u(x) = [\alpha_1 x_1^\rho + \alpha_2 x_2^\rho]^{1/\rho}.$$

Do the following exercises found in chapter 3 of Mas-Collel:

- a) 3.C.6
- b) 3.D.5
- c) 3.E.6