

UNIVERSITA' DEGLI STUDI DI ROMA TOR VERGATA

Micro 1

Specimen exam

Answer ONLY THREE of the following questions

Write EACH ANSWER ON A SEPARATE SHEET using only the sheets provided

Exam duration: 1h and 30 mins (you are allowed 10 minutes of reading time)

1. Write the Slutski equation (and prove it, for extra credit), clearly defining all the objects involved, and discuss its economic implications.
2. Suppose that preferences are convex but not strictly convex. Give a clear and convincing argument that a solution to the consumer's problem still exists, but that it need not be unique. Illustrate your argument with a two-good example.
3. A consumer has wealth w and an utility function given by $u(x) = (x_1 - b_1) * (x_2 - b_2)$.
 - (a) Derive the consumer's Walrasian demand and the indirect utility function
 - (b) List (and prove, for extra credit) as many as possible of the properties that the resulting demand function system should have.
4. Given the production function $f(x, z) = x^a z^b$, calculate the profit maximising demand and supply functions, and the profit function. Assume $a, b > 0$. What restrictions must a and b satisfy?