

Microeconomic Analysis

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Homework 4

Due Thursday 4th October

Question 1 Consider the following preferences on \mathbb{R} : $x \succeq y$ if $x \geq y$ or $y < 0$. Show that \succeq are continuous and convex, but that there exists no concave function which represents them

Question 2 Rubinstein Chapter 4 question 6 (note that this should be a question about separability of preferences!)

Question 3 Two questions about the effect of income. Assume that preferences are locally non-satiated, continuous and monotonic

1. Show that, in general, an increase in income can either increase or decrease demand for a good. In the two good case, if an increase in income decreases demand for good 1, what must be true of the demand for good 2?
2. Show that if a consumer has a homothetic preference relation, then their demand function is homogeneous of degree one in w .
3. Consider a consumer in a world with $K = 2$, who has a preference relation that is monotonic, continuous, strictly convex, and quasi-linear in the first commodity. How does the demand for the first commodity change with w ?

Question 4 Determine whether the following consumer behavior patterns can be rationalized as (assume $K = 2$). If they can be rationalized, come up with a utility function that will do the trick

1. The consumer consumes up to the quantity 1 of commodity 1 and spends his excess wealth on commodity 2.

2. The consumer chooses the bundle $(x_1; x_2)$ which satisfies $x_1/x_2 = p_2/p_1$ and costs w .
3. The consumer chooses the bundle $(x_1; x_2)$ which satisfies $x_1/x_2 = p_1/p_2$ and costs w .