Intermediate Microeconomics (Honors)
Fall 1999
Assignment 3

Due Date: September 28
Be sure to show all of your work and clearly indicate your final response to each question

1. An individual with the utility function

\[ U = \min(2x_1, 3x_2) \]

faces prices \( p_1 \) and \( p_2 \) and has income \( I \).

1. Derive the demand functions for \( x_1 \) and \( x_2 \).
2. Derive the Engel curves associated with the two goods. Are both goods "normal"?

2. Let an individual have the utility function given by

\[ U = .25 \ln(x_1) + .75 \ln(x_2). \]

Let \( I = 12 \) and let the price of the first good be equal to 1. Quantity discounts are available for the second good. For all units purchased up through the 3rd, the price is 3 per unit; after the third unit, all additional units have a price of 1 [for example, the price of 4 units of the good would be 10]. What is the utility maximizing choice of \((x_1, x_2)\)?

3. Chapter 6, question 2.
4. Chapter 6, question 3.
5. Chapter 6, question 12.