Lab 3 Questions for ECON 2101-001 (Intermediate Microeconomics)

Week of May 17, 2017

1. For each of the cases below, suppose m=72, and $p_1=p_2=4$, Draw budget-constraint / indifference curve diagrams showing the consumer's choices. Then, on the other diagram, show what happens when the price of good 2 falls to $p_2=2$!

    - $U(x_1, x_2) = 3x_1+2x_2$
    - $U(x_1, x_2) = \min\{2x_1, 4x_2\}$
    - Diminishing MRS preferences where $MRS=x_2/2x_1$
    - $U(x_1, x_2) = x_1$

2. Take the simplest case of perfect substitutes: $u(x_1, x_2) = x_1+x_2$. First let m=60, and p2=10. Draw the demand curve for good 1.

3. $U(x_1, x_2) = \min\{2x_1, x_2\}$, income is m, p_1 is the price of good 1 and p_2 is the price of good 2.

    - show that demands are $x_1=m/(p_1+2p_2)$ and $x_2=2m/(p_1+2p_2)$
    - Explain why these are both normal goods.
    - Fix m=72 and $p_2=1$. Draw a demand curve for good 1.
    - Fix m=72 and $p_2=2$. Draw another demand curve for good 1 on the same diagram.
    - Suppose m=72, $p_2=1$ and $p_1=1$. Draw a diagram showing this situation. Now show how the diagram changes when $p_1=2$ instead. Finally, ask yourself this: suppose that p_1 did NOT increase, but instead income fell by JUST ENOUGH to make the consumer as well off as he would be if p_1 did increase. How much is this income change?

4. Sam spends his money, m=36, on chocolate bars (x_1) and all other goods (x_2). His demand function for chocolate bars is $x_1=2m/3p_1$. Use the budget constraint to find Sam's demand function for x_2. Then calculate the income and substitution effects from a decrease in p_1 from \$2 to \$1, and show these effects on a diagram.