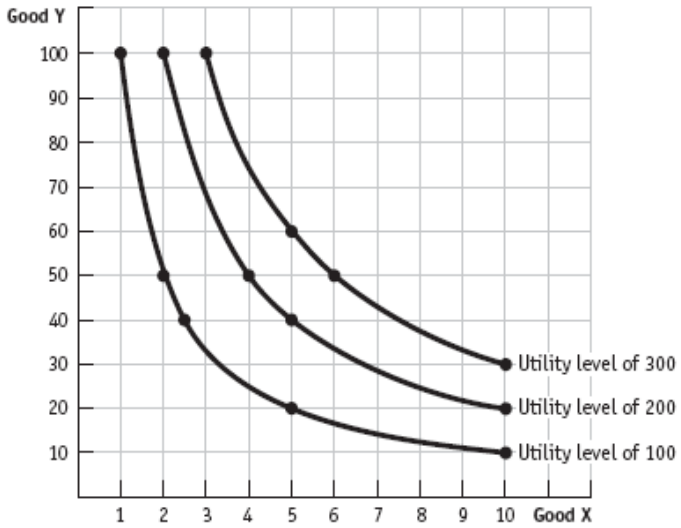
Recitation #8 – Week 03/08/2009 to 03/14/2009

Chapter 11 – Consumer's preferences and Consumer Choice

Exercise 1.

Use the graph below of Steve's indifference curves for good X and good Y to answer this set of questions.



a. Suppose Steve initially has a utility level of 100 utils and he consumes 100 units of good Y. If Steve decides to increase his consumption of good X by 1 unit, how does his consumption of good Y change?

b. Suppose Steve initially has a utility level of 100 utils and he consumes 2 units of good X. If Steve decides to increase his consumption of good X by 1 unit, how does his consumption of good Y change?

c. As Steve increases his consumption of good X while maintaining the same level of utility, what happens to the amount of good Y he is willing to give up to get one more unit of good X?

d. The marginal rate of substitution is equal to the slope of the indifference curve. As Steve increases his consumption of good X while maintaining the same level of utility, what happens to the slope of Steve's indifference curve? What causes this change in the slope of the indifference curve?

e. Suppose Steve initially consumes 2 units of good X and has a total utility of 200 utils. If Steve increases his consumption of good X to 4 units while maintaining his utility at 200 utils, what is the marginal rate of substitution?

Exercise 2.

Use the graph of Steve's indifference curves from problem 1 to answer this set of questions.

a. Suppose Steve's income is initially $115, the price of good Y is $1 per unit, and the price of good X is $15 per unit. Identify two consumption bundles that Steve can afford and that will exhaust his income from the indifference curve map drawn in problem 2; both bundles should lie on an indifference curve that is drawn in the graph for problem 2.

b. Given the information in part (a) and the indifference curve map, what consumption bundle will maximize Steve's utility? What does the marginal rate of substitution equal at this optimal consumption point?

c. Suppose Steve's income doubles while the prices of good X and good Y remain constant. What happens to Steve's budget line and his level of utility?

d. Suppose Steve's income doubles while the prices of good X and good Y also double. What happens to Steve's budget line and his level of utility?

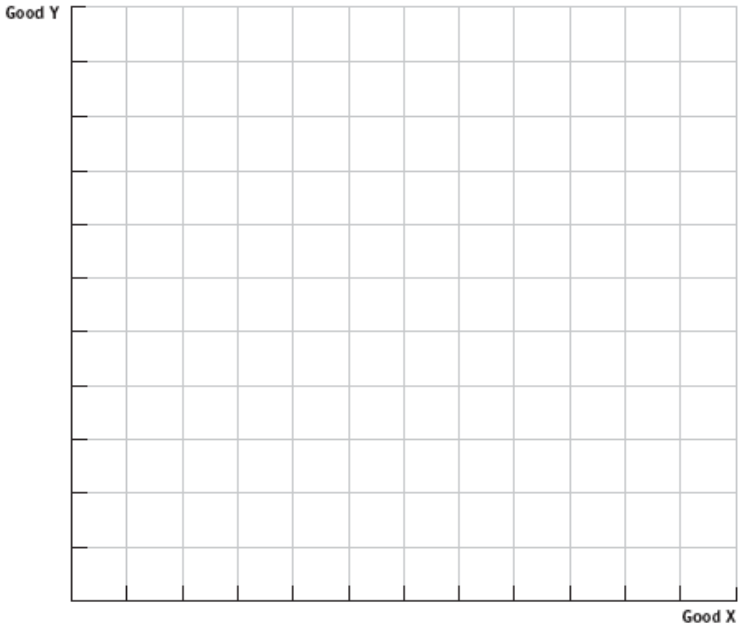
Exercise 3.

Mary's utility function can be written as $U = XY$, where U is the total amount of utility that Mary receives from consuming good X and good Y, X is the number of units of good X Mary consumes, and Y is the number of units of good Y Mary consumes.

Consider three levels of utility for Mary: a utility level of 10, a utility level of 20, and a utility level of 30.

a. For each of the given utility levels, provide a table of X and Y values that gives Mary that level of utility.

b. From the numbers you generated in part (a), draw a graph of Mary's three indifference curves where each indifference curve represents a different level of utility. In your graph, measure good X on the x-axis and good Y on the y-axis.



c. Consider the indifference curve that illustrates a utility level of 10 for Mary. Does Mary prefer any particular point on this indifference curve? Explain your answer.

d. Consider two points that lie on different indifference curves. How do you know which consumption bundle Mary prefers?

e. What are the four properties of normal indifference curves?

f. Do the three indifference curves you drew illustrate the four properties of normal indifference curves? Explain your answer.