Intermediate Microeconomics. Lecture 11

Review for Midterm Exam

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Demand and Supply: ex1

Consider the following demand and supply equations

$$Q^D = 20,000 - 1,000P$$

$$Q^S = -12,000 + 3,000P$$

Demand and Supply: ex2

Consider the following demand and supply functions in the German market of beer

$$Q^D = 6,000 - 1,500P$$

$$Q^S = -1,000 + 2,000P$$

Consumer Theory: MRS

In several questions you will be asked to compute the MRS or implicitly you will need to compute it to solve the consumer's maximization problem

$$MRS_{12} = \frac{MU_{x_1}}{MU_{x_2}}$$

where

$$MU_1 = \frac{\partial u(x_1, x_2)}{\partial x_1}$$

$$MU_2 = \frac{\partial u(x_1, x_2)}{\partial x_2}$$

Consumer Theory: BC

In the test, I will give you information of prices and income. Substitute that information in the following expression

$$m = p_1 x_1 + p_2 x_2$$

which you need to re-express in order to graph it. Just solve for x_2

$$p_2 x_2 = m - p_1 x_1$$

$$x_2 = \frac{m}{p_2} - \frac{p_1}{p_2} x_1$$

Cobb-Douglas preferences: Marshallian demands

Consider the following Cobb-Douglas utility function

$$u(x_1, x_2) = x_1^a x_2^b$$

which we would like to maximize subject to the following budget constraint

$$m = p_1 x_1 + p_2 x_2$$

Perfect Substitutes: Marshallian demands

Consider the following maximization problem

$$Max \;\; u(x_1, x_2) = ax_1 + bx_2$$

s.t.

$$m = p_1 x_1 + p_2 x_2$$

Perfect Complements: Marshallian demands

Consider the following maximization problem

$$Max \;\; u(x_1, x_2) = min\{ax_1, bx_2\}$$

s.t.

$$m = p_1 x_1 + p_2 x_2$$