

Economics 308: Intermediate Microeconomics  
Department of Economics, Finance and Legal Studies  
University of Alabama  
Spring, 2013

Midterm I

The exam is worth 100 points. Each question (six questions on six pages) is of equal value. There will be no communication with the exam proctors; if you believe a question contains an error or ambiguity, say so on your written examination, make an assumption to correct the alleged error or to resolve the ambiguity, and answer the question as well as you can.

1. What are the basic assumptions about preferences (utility) that we made in the class? Name each of the three assumptions and give a brief explanation of each.
2. The marginal rate of substitution (MRS) of food (vertical axis) for shelter (horizontal axis) measures the amount of food that must be received in order to absorb the loss of 1 unit of shelter without losing utility (do not assume that these goods are not perfect substitutes). If that value is 1, if the price of food is 5, and if the shelter price is 10, then the consumer is not maximizing their utility. Sketch a budget line, assuming the consumer has \$50 to spend, and draw in a possible indifference curve that illustrates the situation described here. Then, on the same graph, show what could be done to correct the problem, and briefly explain why this will work.
3. Consider an individual's demand curve for popcorn. Explain briefly (and show, each in a separate graph) what would happen if:
  - (a) there was an increase in the price of pretzels (substitute).
  - (b) there was a decline in the price of popcorn.
  - (c) there was the presence of long waiting lines to buy popcorn.
4. An increased price in movie theatre tickets causes Zach's consumption of popcorn to decrease, but leaves his consumption of movies unchanged. How can this be? Explain briefly using a graph and the concepts of income and substitution effects?
5. Irene's demand for pizza is given by:
$$Q = (0.1 * I^2) / (P)$$
where Q is the weekly quantity of pizza bought (in slices), I is weekly income, and P is the price of pizza (and yes, that is  $I^2$ ).
  - (a) Show whether or not this function is homogenous in I and P?
  - (b) If income is 100, what is the (price) elasticity of demand (show your work)?
6. Draw the intertemporal budget constraint (for consumption this period versus consumption next period) for someone who lives in a country where financial institutions for borrowing (and saving in banks) are absent. What happens to this person's utility if financial institutions for borrowing (and saving in banks) are constructed? Explain briefly and illustrate graphically.