

Midterm I.

Econ 101
Professor Guse

Monday October 16, 2006.

Instructions. You have 55 minutes to complete the exam. There are 55 points available. Please write your responses on the exam itself in the space provided. If you require additional space, write on the back of the page. You may refer only to your own handwritten, two-sided, “cheat sheet”. Calculators and all other references materials are *not* allowed. If a question asks for a numeric quantity you may leave your answer in expression form for full credit. (e.g. “ $\frac{40-30}{5}$ ” would be perfectly acceptable in place of “2”.) Be sure to label any diagrams you draw, to show your work and to explain your reasoning. Please turn in your cheat sheet with your exam. Thank you and good luck!

Name:

Pledge:

1. SHORT ANSWER (10 Points).

- (a) (4 points) In a classical short-run total product curve, if output is increasing at an increasing rate then
- i. marginal product is increasing / decreasing (circle one).
 - ii. average product is increasing / decreasing (circle one).
 - iii. marginal cost is increasing / decreasing (circle one).
 - iv. average variable cost is increasing / decreasing (circle one).
- (b) (2 points) Johanna is willing to accept a loss of not more than 5 Republican seats in the House of Representatives for a gain of 2 Republican seats in the Senate. Johanna's ----- of House seats for Senate seats is $\frac{5}{2}$.
- (c) (4 points) It takes Elisa 1 hour to bake a loaf of bread and 3 hours to catch a fish. Jane takes 2 hours to make a loaf of bread. Jane has *comparative advantage* over Elisa in bread making. What can you say about Jane's fishing?

2. (20 points) Scrooge has wealth equal to \$2000 which he can spend on two goods, *current consumption* and *savings*. The price of current consumption is \$1. The price of savings is \$1.
- (a) (5 Points) In a diagram with current consumption on the horizontal axis and savings on the vertical axis, draw Scrooge's budget line. Label it "(a)".
 - (b) (10 Points) The government decides to tax current consumption over \$1000 at a rate of \$1 per \$1. That is, Scrooge will not owe any tax if he spends \$1000 or less in current consumption. However, if, for example, Scrooge spends \$1060 in current consumption, he would have to pay a tax of \$60. Draw his new budget line. Label it "(b)".
 - (c) (5 Points) **Difficult.** It turns out that under the new tax, Scrooge lowers his current consumption to exactly \$1000. Moreover, the tax rate imposed was the *lowest* tax rate that induces Scrooge to do this. Carefully draw Scrooge's indifference curve running through the point (1000,1000). What is Scrooge's MRS of savings for consumption at that point?

3. (25 Points) Virginia receives \$350 each month to spend on pizza and beer. Her preferences from month to month never change. Her budget lines and choices for July and August are shown below in Figure 1.

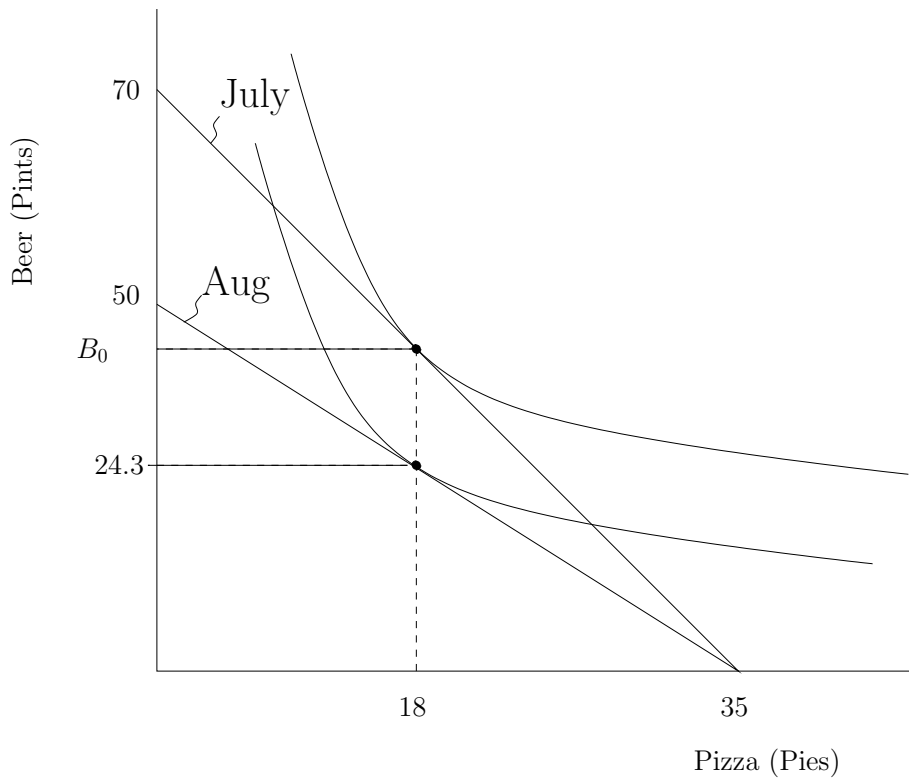


Figure 1. Virginia's budgets and choices for pizza and beer in July and August.

- (a) (3 points) What were the prices of beer in July and August?
- (b) (2 points) What were the prices of pizza in July and August?
- (c) (5 points) B_0 was Virginia's level of beer consumption in July. What is B_0 equal to?

(d) (5 points) Going solely on the one change in price we know about, what is the cross-price elasticity of pizza with respect to the price of beer. Explain.

(e) (10 points) Sketch a demand curve for beer from the data in Figure 1. Be sure that your diagram is well-labeled.