Econ 3303 Fall 2013

**Intermediate Microeconomics** 

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## First Exam

Write all answers in your blue book and show all work there. Return your exam in your blue book.

18 pts.

1) Demand:  $Q_D = 120 - 5P$ 

Supply:  $Q_S = -30 + 3P$ 

- a) Find the equilibrium price and quantity.
- b) If there is a \$10 subsidy to either the buyer or seller, find the price to the buyer and the seller and quantity.
- c) Draw a well-labeled diagram of the functions in parts a and b.
- d) Would a subsidy of 15 dollars make the market price zero? Explain. .

18 pts.

- 2) Jack's opportunity cost of good A is 2 units of good B. Jill's opportunity cost of good A is 3 units of good B.
- a) If they specialize and trade, who should produce good A?
- b) Will a price of 1 A per B make a mutually beneficial trade? Why?
- c) Suggest a price that will be mutually beneficial and explain why it is.

16 pts.

- 3) a) Sketch a well-labeled diagram showing a corner solution.
- b) Does your diagram have a concave indifference curve? Is a concave one necessary to give a corner solution? Explain.

16 pts

- 4) If the  $MRS_E = -2$  and the  $MRS_C = MV = -1$  for goods X and Y, what can be done to increase utility?
- b) Draw a well-labeled diagram where the utility maximum is shown and show a point where too much X is being consumed. At this point, which good has more utility per dollar? Why?

16 pts.

- 5) a) If Profit =  $-10 + Q .1Q^2$ , find the profit maximizing Q and use the second derivative to confirm that it is a maximum.
- b) For a price cut, show in a well-labeled diagram of a demand curve, revenue that is lost and gained and relate these areas to the product rule.

16 pts.

- 6) In a two frame diagram,
- a) Frame 1: show budget lines and indifference curves for a drop in price for good X, taking care to make the good a Giffen one.
- b) Frame 2: show the compensated and uncompensated demand curves that match up with frame 1.

I have neither given nor received unfair aid on this test.