**ECON 136: Week 6, Wednesday**

**Midterm Review**

The exam asks you to provide answers to three analytical questions and two calling for explanations. There is choice in each section. Don’t provide more than these five responses.

**A) Evaluating Explanations**

Here’s a sample question asking for an explanation: What does it mean to say that the price of an identical good is twice as expensive at one store as at another?

Take a few minutes to evaluate the following answer using my rubric, then lets discuss:

When price is twice as high at one store as at another, one must pay twice as much money for ones purchases, but it is the opportunity cost, not the $ that matter. The dollars spent by themselves have no economic meaning, but rather confer a claim on other goods an services, in particular the good that would give the purchaser the next highest level of satisfaction. To say that the price is twice as high is to say that the value of the opportunity the purchaser must forego is twice as great.

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|  | Exemplary5 | High Quality4 | Adequate3 | Needs Improvement2 |
| For explanations |  |  |
| Content | Compelling explanation | No missing elements | On point, but missing key elements | Flawed reasoning or conclusion |
| Structure | Easy to follow the logic of the explanation | No missing steps or extraneous arguments | Holes or detours in only a few places | Incomplete reasoning or fails to address question |
| Attention to Presentation |  | Easy to find thesis | Caught obvious flaws | No evidence of proof reading |

**B) Sample Analytical Questions**

1) Use appropriate diagrams to derive a demand curve from the interaction of indifference curves and a budget constraint.

2) Marge has 1 orange and 3 bananas and a marginal rate of substitution of 2 bananas for each additional orange at her current level of satisfaction. Ruth has 3 bananas and 5 oranges. Draw a diagram showing all the potential allocations of oranges and bananas between then and the initial allocation of fruit (place Marge’s origin in the SW corner with oranges along the horizontal axis). Draw plausible indifference curves through that point and show a plausible outcome of voluntary exchange.

**C) Finishing Up Monday’s Class**

1) A competitively supplied muffin market

Make sure both of you are confident in the answers you completed after class.

a) Suppose the (inverse) demand for muffins is given by

 P = 4 – 0.04Q

where Q is measured in thousands of muffins; and in the long run muffin producers cover all their costs of production (including salaries and dividends to investors) at a price of $2.00 per muffin. Add demand and supply curves to the graph and confirm that at a market equilibrium 50,000 muffins will be sold and purchased.

b) Confirm that the resulting consumer and producer surplus is $50,000 and 0 respectively.

c) Suppose, however, that the production of muffins generates economic rent for more productive sellers so that the (inverse) supply curve is

 P = 1 + .02Q

d) Confirm from the diagram and algebraically that the same market equilibrium (50,000 muffins at $2 per muffin emerges.

e) Confirm that the market now generates $25,000 in producer surplus.

f) Suppose the government now imposes a tax collected by sellers of $ 0.60 per muffin. Draw the new supply curve and confirm that at the new market equilibrium 40,000 muffins are sold, consumers pay $2.40 per muffin, but sellers keep only $1.80 per muffin.

g) Building on your analysis confirm that at the new equilibrium

CS = $32,000

PS = 16,000

Tax revenue = $24,000

And that the difference between the total of these three results and the sum of consumer and producers surplus in the absence of taxation is $3,000

2) A Severe Winter, Price Controls and the Market for Propane

Many families outside urban areas rely on propane for heat and cooking. The colder than expected winter resulted in a shift out in the demand for propane followed by a partial response by producers.

a) Label the attached diagram with

A – the initial equilibrium, 1.6 million bbl/day sold at $2.40 per barrel

B— equilibrium at the peak of the price spike ($4 per bbl)

C – equilibrium after the supply response.

b) I asked: Suppose the government had imposed a price ceiling at $3.60 per barrel. Find the excess demand and lost consumer and producer surplus resulting from the intervention.

i) The excess demand is the difference between the quantity demanded (from D2) and the quantity supplied (S1) at $3.60 (200 thousand bbl/day).

ii) Calculating the lost CS and PS depends on what alternative outcome you use. Stage 1: The price ceiling prevents the market from clearing where S1=D2. Hence, the consumers who would have expanded their purchases from 1.9 to 2 million at a price of $3.60 are denied access; lost CS = (1/2)(.1)(4.4-4) = $20,000. Lost PS is also $20,000.

iii) But, the bigger problem is that, without profits earned from allowing price to rise, a sufficient number of firms may not enter the market to shift supply to S2. So the real alternative equilibrium to the outcome with a price ceiling (1.9 million bbl/day sold at $3.60) is 2.2 million sold at $3.20. Using that equilibrium, confirm that the lost CS and PS are each $180 thousand.