

Assignment #3
 Economics 101 – Section 5
 Due Date: Thursday Feb 12, 2004

Instructions: Complete all questions and sub questions on separate sheets of paper. Make sure to include your name (first and last) and your student number on the first page of your assignment. Staple all sheets together and turn in to my office by the due date.

#1) The market for rice has the following supply and demand schedules:

| P (per ton) | Q Demanded (tons) | Q Supplied (tons) |
|----------------|----------------------|----------------------|
| \$ 10 | 100 | 0 |
| \$ 20 | 80 | 30 |
| \$ 30 | 60 | 40 |
| \$ 40 | 50 | 50 |
| \$ 50 | 40 | 60 |

To support rice producers, the government imposes a price floor of \$50 per ton.

- a) What quantity will be traded in the market? Why?
- b) What steps might the government have to take to enforce the price floor?

#2) The market for one-bedroom apartments in a city has the following supply and demand schedules:

| Monthly Rent | Q demanded (‘000’s) | Q Supplied (‘000’s) |
|-----------------|------------------------|------------------------|
| \$ 1,000 | 800 | 300 |
| \$ 1,200 | 600 | 350 |
| \$ 1,400 | 400 | 400 |
| \$ 1,600 | 200 | 450 |
| \$ 1,800 | 100 | 500 |

The government imposes a price ceiling (rent control) of \$1,200

- a) With the price ceiling, is there an excess demand, excess supply, or neither? If there is an excess supply or demand, state which one and how much.
- b) What quantity of one-bedroom apartments will actually be rented under this rent control policy?
- c) Suppose instead the price ceiling is \$1,600, what will be the quantity rented now? Is there an excess supply, excess demand, or neither?

#3) The demand for bottled water in Ames per week is:

| Price per bottle | Quantity Demanded |
|---------------------|-------------------|
| \$ 1.00 | 500 |
| \$ 1.50 | 400 |
| \$ 2.00 | 300 |
| \$ 2.50 | 200 |
| \$ 3.00 | 100 |

- a) Is this a straight line demand curve? How do you know?
- b) Calculate the price elasticity of demand for bottled water for a price rise from \$1.00 to \$1.50. Is demand elastic or inelastic over this price range?
- c) Calculate the price elasticity of demand for a price rise from \$2.50 to \$3.00. Is demand elastic or inelastic over this price range?
- d) Demand should become less and less elastic as we move down and to the right along the demand curve. Use the answers from b) and c) to justify this.
- e) Create another column for total expenditure on bottled water at each price.
- f) A rise in the price should increase total expenditures when demand is inelastic and decrease total expenditure when demand is elastic. Using the new column from e) and previous answers verify that this relationship is correct.