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| Regulation & Antitrust Policy (Econ 180) | Signature: |  |
| Drake University, Spring 2011  William M. Boal | Printed name: |  |

**QUIZ #1 VERSION B**

**"Demand and Supply"**

INSTRUCTIONS: This exam is closed-book, closed-notes. Simple calculators are permitted, but graphing calculators or calculators with alphabetical keyboards are NOT permitted. Cell phones or other wireless devices are NOT permitted. Points will be subtracted for illegible writing or incorrect rounding. Point values for each question are noted in brackets.

**I. Multiple choice:**  Circle the one best answer to each question. [2 pts each: 18 pts total]

(1) A demand curve for mobile phones shows how the quantity of mobile phones people want to buy is affected by

1. the income of consumers.
2. the price of the mobile phone itself.
3. the price of substitutes, like iPads.
4. the mobile phone's features.

(2) A supply curve for steel shows how the quantity of steel that steel producers want to produce and sell is affected by

1. environmental regulations.
2. the cost of inputs like iron ore.
3. the price of steel.
4. the price of alternative materials, like aluminum.

(3) Excess supply in the market for corn would occur if the actual price of corn were

1. greater than the equilibrium price.
2. less than the equilibrium price.
3. too close to the equilibrium price.
4. cannot be determined from the information given.

(4) Excess demand in the market for petroleum would cause the price of petroleum to

1. increase.
2. decrease.
3. oscillate up and down.
4. remain constant.

(5) Which supply curve below is *more* elastic?

A

B

Price

Quantity

1. Curve A is more elastic.
2. Curve B is more elastic.
3. The curves are equally elastic because they pass through the same point.
4. Cannot be determined from information given.

(6) If the price elasticity of demand for a good is small in absolute value (but not zero) then buyers

1. are not very sensitive to price.
2. are very sensitive to price.
3. buy the same amount of the good, regardless of price.
4. Cannot be determined from information given.

(7) If consumers have less time to adjust to a price change of a good, the demand for the good will be

1. more elastic.
2. less elastic.
3. perfectly inelastic.
4. Cannot be determined from information given.

(8) Initially, City A had landline (wired) telephone service but no mobile (wireless) telephone service. Later, mobile telephone service became available. As a result, the elasticity of demand for landline telephone service

1. became more elastic.
2. became less elastic.
3. was unaffected because the product was unchanged.
4. Cannot be determined from information given.

(9) Suppose the price elasticity of demand for bacon is about – 2. If the price of bacon rises, then the amount of money consumers spend on bacon will

1. increase.
2. decrease.
3. remain constant.
4. cannot be determined from information given.

**II. Problems:** Insert your answer to each question below in the box provided. Feel free to use the margins for scratch work⎯only the answers in the boxes will be graded. Work carefully⎯partial credit is not normally given for questions in this section.

(1) [Intro to antitrust: 4 pts] Fill in the blanks: Antitrust policy is enforced by two U.S. federal agencies: the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Division of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Department, and the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Commission.

(2) [Demand and supply, simultaneous equations: 26 pts] Suppose demand and supply for flashlights are given by the following equations.

Demand: P = 15 – (Q/20) Supply: P = 6 + (Q/10)

a. [12 pts] Solve for the market equilibrium price (P\*) and quantity (Q\*) for flashlights. Show your work and circle your final answers.

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| b. [2 pts] Compute total revenue for sellers (which equals total spending for buyers). | $ |
| c. [12 pts] Graph and label the demand and supply curves below, using a straightedge. |  |

(3) [Simultaneous equations: 12 pts] Suppose we are given the following equations.

x1 = 100 − (x2/2) x2 = 110 − (x1/2)

Note that x1 and x2 are *different variables*. Solve for x1 and x2 . Show your work and circle your final answers.

(4) [Equilibrium: 8 pts] Suppose three buyers and three sellers engage in a market similar to the activity we did in class. Each buyer may buy at most two units and each seller may sell at most two units, but no one is forced to trade. Assume that buyers and sellers are each trying to maximize their personal earnings (or “gains from trade”). Earnings for each buyer equal the buyer's value of the good minus the price paid. Earnings for each seller equal the price received minus the seller's cost of the good. Earnings of persons who do not trade are zero. Prices must be whole dollars. Buyers’ values and sellers’ costs are given in the following table. Please use the graph at right for scratch work.

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| --- | --- | --- | --- |
|  | Buyers’ values | | |
|  | A | B | C |
| 1st unit | $9 | $8 | $8 |
| 2nd unit | $1 | $2 | $7 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | Sellers’ costs | | |
|  | #1 | #2 | #3 |
| 1st unit | $1 | $2 | $4 |
| 2nd unit | $5 | $8 | $9 |



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| a. Suppose the price were **$2**. Would there be *excess demand or excess supply*? |  |
| b. What is the equilibrium price likely to be, in whole dollars? | $ |
| c. How many units of the good will be sold in this market? | units |
| d. Compute the total revenue received by sellers (which equals total spending by buyers). | $ |

(5) [Price elasticity of demand: 4 pts] Suppose that when the price of postage stamps increases by 2 percent, the quantity of first-class letters mailed decreases by 3 percent.

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| a. Compute the price elasticity of demand. |  |
| b. Is demand *elastic, inelastic,* or *unitary-elastic* ? |  |

(6) [Price elasticity of demand: 10 pts] The graph below shows five different demand curves, labeled A, B, C, D, and E.

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| a. Which demand curve is *perfectly inelastic?* |  |
| b. Which demand curve is merely *inelastic?* |  |
| c. Which demand curve is *unitary elastic?* |  |
| d. Which demand curve is *elastic?* |  |
| e. Which demand curve is *perfectly elastic?* |  |

(7) [Price elasticity of demand: 10 pts] Suppose the cable TV company raises its rates by 10%. Assume the elasticity of demand for cable TV service is –1.2. Assume everything else affecting demand for cable TV service remains constant.

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| a. Will the number of cable TV subscribers *increase or decrease?* |  |
| b. ... by about how much? | % |
| c. Will revenue received by the cable TV company *increase* or *decrease?* |  |
| d. ... by about how much? | % |
| e. Is the demand for cable TV service *elastic, inelastic,* or *unitary elastic?* |  |

(8) [Price elasticity of supply: 8 pts] Suppose the government wants to increase enlistment in the national guard by 6%. Also suppose the elasticity of supply into the national guard is known to be 2.0 .

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| a. To increase the size of the national guard by this much, must pay levels in the national guard *increase or decrease*? |  |
| b. ... by about how much? | % |
| c. Will the total size of the national guard payroll (the amount budgeted to pay members of the national guard) *increase or decrease?* |  |
| d. ... by about how much? | % |

[end of quiz]