



- Name: _____
 - Date: _____
 - Section: _____
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ECON 300: Intermediate Price Theory

Quiz #6

Fall 2024

INSTRUCTIONS:

- Please read all questions carefully before you begin answering.
- Answer all questions in the spaces provided on the question sheet.
- This quiz consists of 5 pages, including this one. There are a total of 4 problems with a total of 16 subquestions.
- This is a closed-book quiz. Please remove all materials from the top of the desk and take any necessary items from your bags before the exam begins.

Problem 1. Definitions**(5 Points Each)**Select FOUR items on the list of items below, and provide a definition of the items that you chose.

- Monopsony
- Deadweight Loss
- Price Ceiling
- Economy of Scale
- Market Power
- Consumer's Burden (from Taxation)

1.A. Item #1: _____

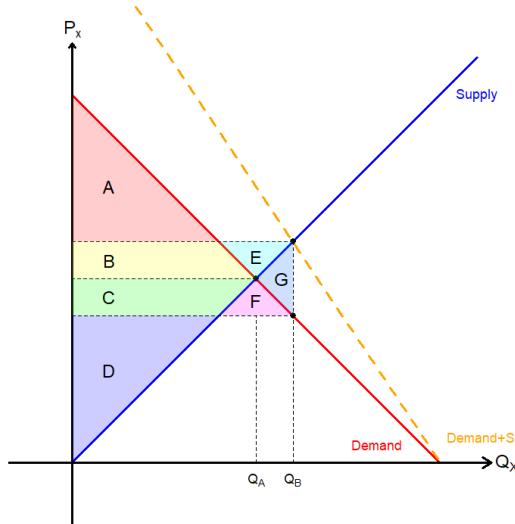
1.B. Item #2: _____

1.C. Item #3: _____

1.D. Item #4: _____

Problem 2. True / False**(5 Points Each)**

Determine whether the following statements are TRUE or FALSE. If you conclude that a statement is TRUE, no justification is required. However, if you conclude that a statement is FALSE, you MUST provide an explanation to justify your answer. All four questions are based on the graph below, which depicts a government subsidy proportional to the price of a good.



2.A. The area A represents consumer surplus.

2.B. The area $B + C + E + F + G$ represents government's expenses in subsidizing the market.

2.C. The area $E + F + G$ represents the deadweight loss

2.D. The quantity traded in the market before the subsidy is Q_A .

Problem 3. Taxation**(7.5 Points Each)**

Consider the market for good x . Assume that the output market for good x is perfectly competitive. The demand (Q_x^D) and supply (Q_x^S) functions for good x are given as follows:

$$\begin{aligned}Q_x^D &= 120 - 4P_x \\Q_x^S &= 20 + 6P_x\end{aligned}$$

3.A. What are the equilibrium market price (P_x^*) and quantity (Q_x^*) as determined by the market?

- $P_x^* =$

- $Q_x^* =$

For the remaining questions in Problem 3, assume that the social planner has concluded that good x is over-traded in the economy and implements a per-unit tax of \$5 for each unit produced or consumed.

3.B. Formalize the “price differential” between the price paid by the demand side (P_x^D) and the price received by the supply side (P_x^S).

3.C. What is the quantity of good x traded (Q_x^T) in the market?

3.D. What information is needed to determine whether consumers or producers bear a greater burden of taxation?

Problem 4. Monopolies**(7.5 Points Each)**

Consider a profit-maximizing monopoly producer of good x . The market demand for good x is given by the following inverse demand function:

$$P_x = 800 - Q_x$$

The producer's total cost function is given by:

$$TC(Q) = 814 + 5Q^2$$

4.A. Derive the producer's total revenue function, $TR(Q)$.

- $TR(Q) =$

4.B. Derive the producer's marginal revenue function, $MR(Q)$.

- $MR(Q) =$

4.C. Derive the producer's marginal cost function, $MC(Q)$.

- $MC(Q) =$

4.D. Find the profit-maximizing quantity and price for the producer.

- Original Score: _____

- Recovered Score: _____

- Original Date: _____

- Recovered Date: _____