ECON 0100 | Part C

Demo C1

This MiniExam will take 15 minutes with quick break to follow. MiniExams are designed to both test your knowledge and challenge you to apply familiar concepts in new environments. Treat it as if you're trying to show me that you understand the material. Answer clearly and completely.

Academic Conduct Code | Name: TAYLOR **Student ID:** :)

The following academic conduct code is designed to protect the integrity of your work. Print your name/initials beside the five academic honesty agreements. I pledge to my fellow students, the university, and the instructor, that:

✓ I will complete this MiniExam solely using my own work.
✓ I will not use any digital resources unless explicitly allowed by the instructor.
✓ I will not communicate directly or indirectly with others during the MiniExam.

Somethin's Up With Pumpkins

Residents of Hogsmeade enjoy pumpkin pasties year round. The Demand (marginal benefit) curve and Supply (marginal cost) curve for pumpkin pasties can be represented using the following relationships.

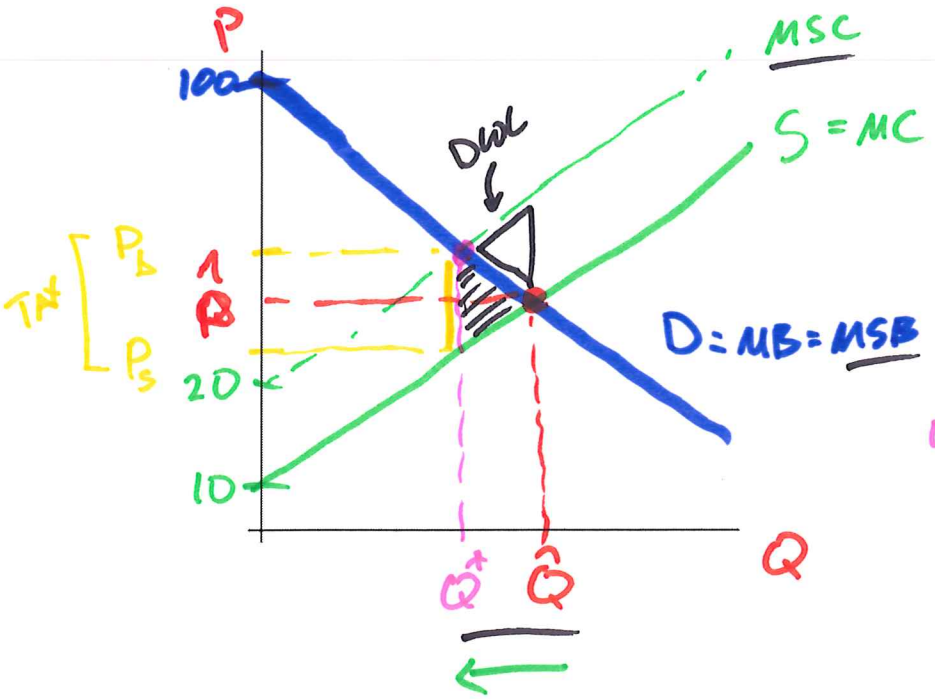
$$D: P_b = 100 - Q_b \tag{1}$$

$$S: P_s = 10 + Q_s \tag{2}$$

However, a recent report conducted by the Daily Profit conclusively established a link between the consumption of pumpkin pasties and accidental magical spells, with a cost to society of 10 galleons.

Q1 (of 3) | Market Equilibrium

Find the market equilibrium price, quantity, and DWL. Use algebra and a graph to guide your answers.



MARKET : MC = MB

$10 + Q = 100 - Q$

$2Q = 90$

$\hat{Q} = 45$

$\hat{P} = 10 + 45 = 55$

SOCIAL : MSC = MSB

$10 + 10 + Q = 100 - Q$

$2Q = 80$

$Q^* = 40$

$DWL = 10 \cdot (45 - 40) \cdot \frac{1}{2}$

$= 10 \cdot 5 \cdot \frac{1}{2} = 25$

Market Equilibrium Quantity: 45

Market Equilibrium Price: 55

Socially Efficient Quantity: 40

Deadweight Loss: 25

Q2 (of 3) | Policy Proposal

What type and size of policy would you propose to eliminate the DWL you identified in Q1?

$P_b = 100 - 40 = 60$

$P_s = 10 + 40 = 50$

Policy Type: TAX

Policy Size: 10

Buyer Price: 60

Seller Price: 50

Post-Policy Quantity: 40

$I_b = 60 - 55 = 5$

$I_s = 55 - 50 = 5$

Q3 (of 3) | Deadweight Loss Intuition

If the marginal cost of a gallon of gas is \$4.00, the negative externality is \$1.00, and the marginal benefit is \$4.50, what is the deadweight loss of this gallon of gas?

Deadweight Loss: 0.50

$DWL = MSC - MSB = 0.50$

MB > MC → Exchange it!

$MSC = 4.00 + 1.00 = 5.00$

$MSB = 4.50$

5.00 — MSC

4.50 — MSB = MB

MC — 4.00

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