FALL 2023

Econ 0100 | MiniExam C

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.

Academic Conduct Code

The following academic conduct code is designed to protect the integrity of your work. Print your initials beside the four academic honesty agreements before beginning.

I pledge to my fellow students, the university and the instructor...

... I _____ will complete this MiniExam solely using my own work

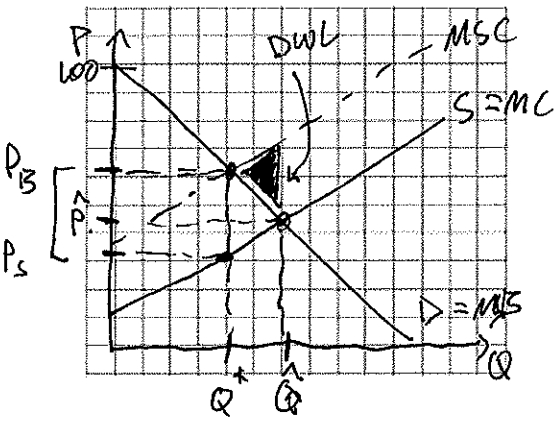
... I _____ will not use any internet connected devices or other online resources

... I _____ may use hardcopy resources (the textbook, printed materials, hardcopy notes)

... I _____ will not communicate with others during the MiniExam

Question 1 and 2 | Graph

Use this to graph your answers to Question 1 and Question 2.



Name: TAYLOR Student ID: U *Version 1*

Smoked Toffee

Hogsmeade has seen a recent proliferation of candy shops selling smoked toffees. The Demand (marginal benefit) curve and Supply (marginal cost) curve for smoked toffee can be represented using the following relationships.

$$D : P_b = 100 - Q_d$$
$$S : P_s = 10 + Q_s$$

The proliferation of smoked toffee makers has meant the town saw a subsequent rise in *smoke*. Wood smoke can cause lung issues and carries a cost of 10 Galleon to the health of Hogsmeade residents.

Question 1 (of 3) | Market Equilibrium

Use a graph and algebra to find equilibrium price, quantity, and DWL. Be sure to show your work.

Finding equilibrium.

$P_s = P_s$

$100 - Q_D = 10 + Q_S$

$90 = 2Q$

$\hat{Q} = 45$

$P = 10 + Q$

$= 10 + 45$

$\hat{P} = 55$

Socially efficient. MSC = MSB

$P_S + EXT = P_B$

$10 + Q + 10 = 100 - Q$

$20 + Q = 100 - Q$

$2Q = 80$

$Q^* = 40$

$DWL = \frac{1}{2} \cdot b \cdot h$

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

$= 25$

Market Equilibrium Price: 55 Market Equilibrium Quantity: 45

Socially Efficient Quantity: 40 Deadweight Loss: 25

Question 2 (of 3) | Policy Proposal

What type and size of policy would you propose to eliminate the DWL you identified in Question 1?

Tax at 10 galleons.

$P_B = P_S + 10$

Solve this by finding the prices at Q^*.

$P_S = 10 + 40 = 50$

$P_B = 100 - 40 = 60$

Policy Type: TAX Policy Size: 10

Buyer Price: 60 Seller Price: 50 Post-Policy Quantity: 40

Question 3 (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?

For this unit → DWL = MSB − MSC = 4.50 − 4.00 − 1.00

= −0.50

Deadweight Loss: \$ 0.50