FALL 2023

Econ 0100 | MiniExam E

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

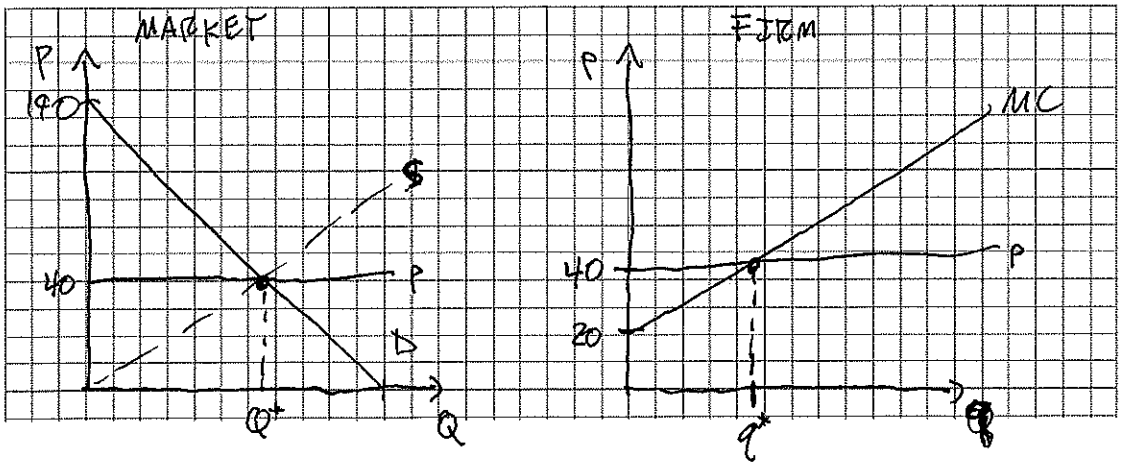
... I _____ will not use any internet connected devices or other online resources

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

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

Graph

Use this to graph the initial setup from the following page.



Name: TAYLOR Student ID: :) *Version 1*

The Duel of Diagon Alley's Dwindling Dealers

Spell books had long been sold by many shops on Diagon Alley, with the number of sellers staying constant in the last 200 years, with identical marginal cost curves, $MC = 20 + 10q$, a price per book of $P = 40$, and the following demand relationship.

$$D : P = 190 - Q$$

This all changed when two mischievous siblings, Petunia and Vernon, separately began buying up the sellers of spell books. After a five year period of consolidation, they became the only two sellers of spell books, each operating their own separate but equally sized book seller, ***Petunia's Pages*** and ***Vernon's Volumes.***

$$MR_P = 190 - 2q_P - q_V, \qquad MR_V = 190 - 2q_V - q_P$$

We are about to diagnose the impact this consolidation had on the market for spell books. Use a graph on the front page to describe the market before the consolidation.

Q1 | Pre-Consolidation Profit Maximization

What is the firm's profit maximizing quantity before the market consolidation? 2

Set $MC = MR$. In perfect competition, $MR = P = 40$.

$20 + 10q = 40 \rightarrow 10q = 20 \rightarrow q^* = 2$

Q2 | Pre-Consolidation Equilibrium Quantity

What is the equilibrium quantity before the market consolidation? 150

Plug price into Demand.

$40 = 190 - Q \rightarrow Q^* = 150$

Q3 | Pre-Consolidation DWL (*hint: no math needed*)

What is the deadweight loss in the market before the market consolidation? 0

Perfect Comp. in long run.

Q4 | Post-Consolidation Equilibrium Quantity (*hint: symmetric best responses*)

What is the total quantity produced by both firms after the market consolidation? 2.170/13 (or $\frac{340}{13}$)

Find BR: $MR = MC$. $q_P = q_V \rightarrow 170 = 13q_P$

$MR_P = 190 - 2q_P - q_V = 20 + 10q_P \quad q_P^* = \frac{170}{13}$

Q5 | Post-Consolidation Equilibrium Price (*hint: use a graph here*)

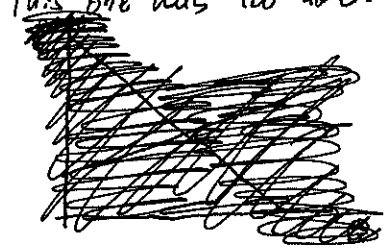
After the consolidation, the price rises from 40 to what? 2130/13

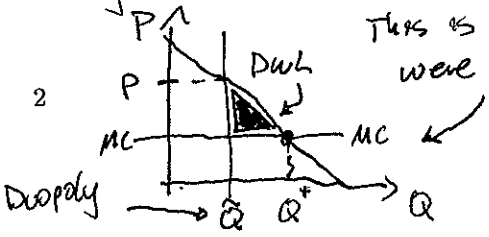
$P = 190 - \frac{340}{13} = \frac{2130}{13}$

Q6 | Post-Consolidation DWL (*hint: use Q^* from Q1*)

What is the deadweight loss after the consolidation?

This one was too hard. :(I'm not including the solution here. It's not worth our time.





This is the graph if MC were constant.