

Problem Set Four

Name _____

Chapter 6

3. The Paducah Slugger Company makes baseball bats out of lumber and receives \$10 for each finished bat. Paducah's only factors of production are lathe operators and a small building with a lathe. The number of bats per day it produces depends on the number of employee-hours per day as shown below. The wage is \$15 per hour.

Number of bats per day	Number of employee-hours per day
0	0
5	1
10	2
15	4
20	7
25	11
30	16
35	22

a. Paducah's daily fixed cost for the lathe and building is \$60. Construct a table showing total revenue, variable cost, total cost, and daily profit for various quantities of daily bat production. What is the profit maximizing quantity of bats? How much daily profit is made?

Q (bats/day)	Total Revenue (\$/day)	Variable cost (\$/day)	Total cost (\$/day)	Profit (\$/day)
0				
5				
10				
15				
20				
25				
30				
35				

b. What would be the profit-maximizing number of bats if the firm's fixed costs were not \$60 per day but only \$30?

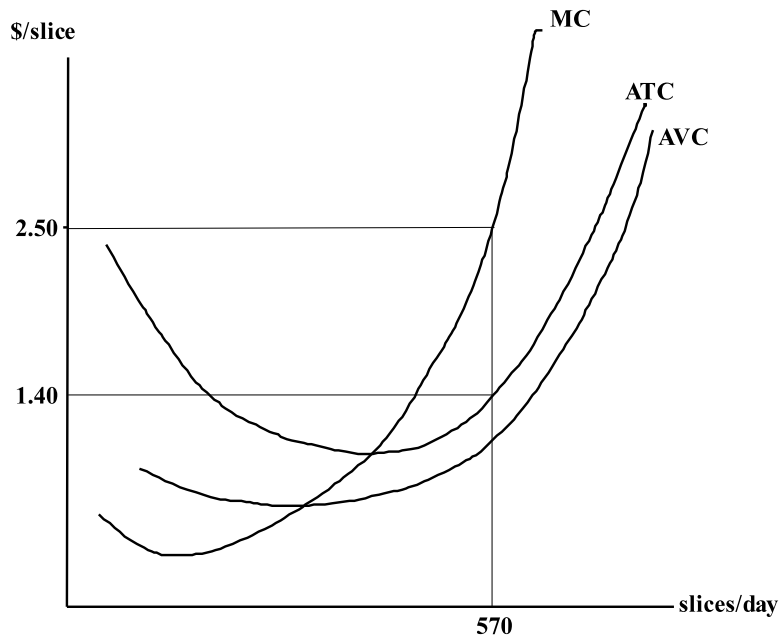
4. How would Paducah's profit-maximizing level of output be affected if the government imposed a tax of \$10 per day on the company? What would Paducah's profit-maximizing level of output be if the government imposed a tax of \$2 per bat instead? Why do these two taxes have such different effects?

Q (bats/day)	Total Revenue (\$/day)	Variable cost (\$/day)	Total cost (\$/day)	Profit (\$/day)
0				
5				
10				
15				
20				
25				
30				
35				

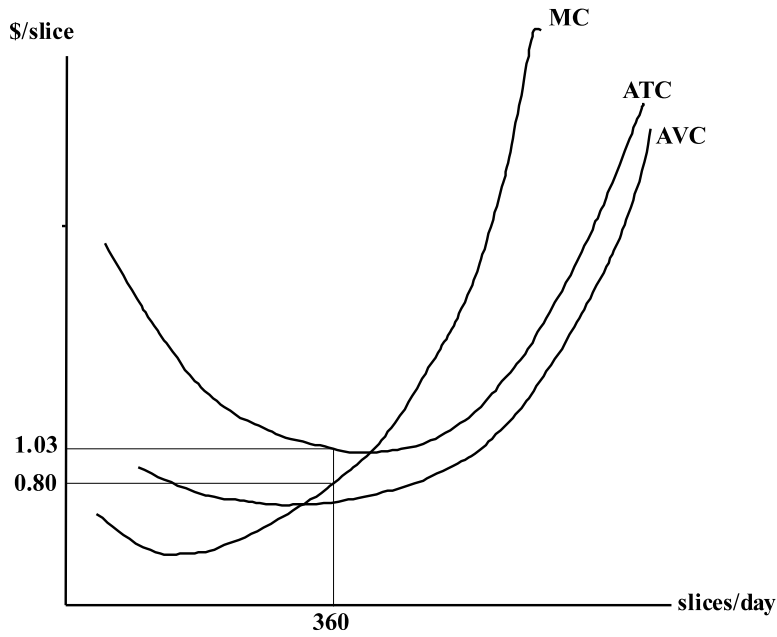
5. The supply curves for the only two firms in a competitive industry are $P = 2 Q_1$ and $P = 2 + Q_2$, where Q_1 is the output of firm 1 and Q_2 is the output of firm 2. What is the market supply curve for this industry?

6. Calculate and **graph** daily producer surplus for the market for pizza whose demand curve is $Q_D = 24 - 4 P$ and supply curve is $Q_S = 4 P$.

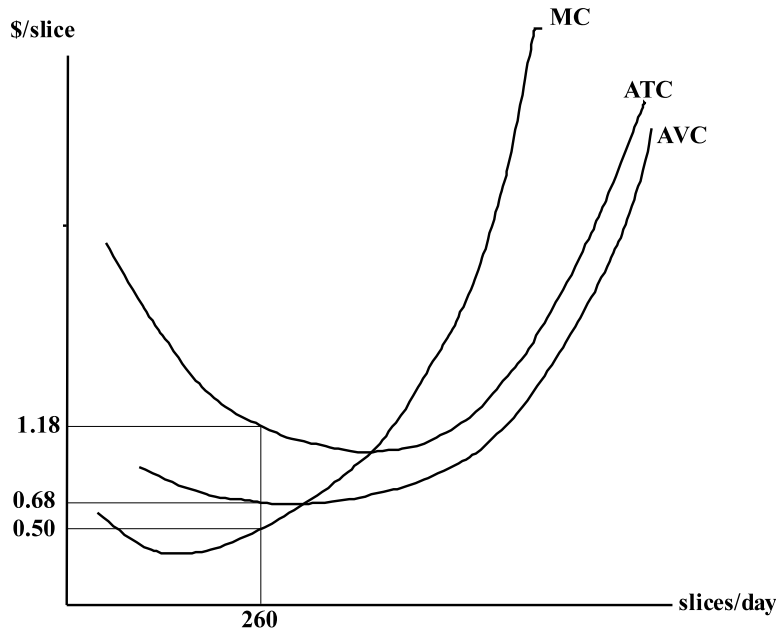
7. What is the profit-maximizing level of output and how much daily profit will the producer below earn if the price of pizza is \$2.50/slice?



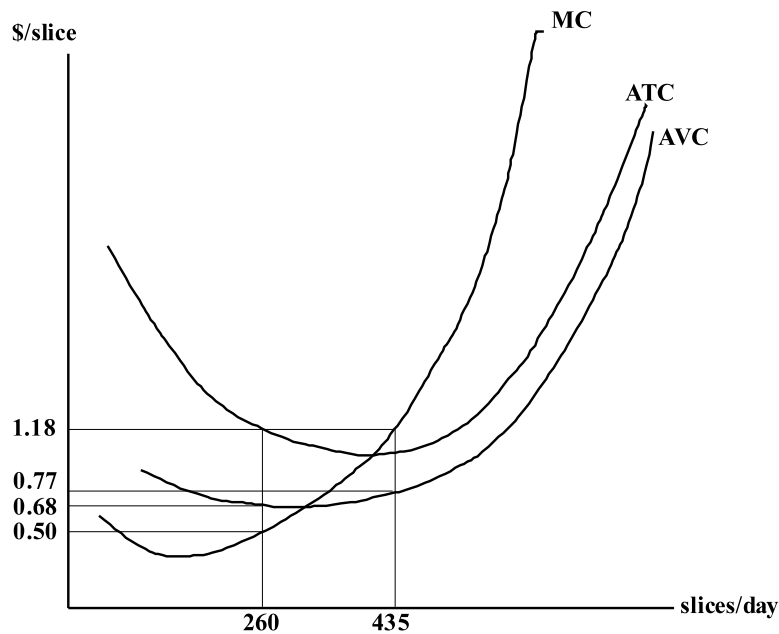
8. What is the profit-maximizing level of output and how much daily profit will the producer below earn if the price of pizza is \$0.80/slice?



9. What is the profit-maximizing level of output and how much daily profit will the producer below earn if the price of pizza is \$0.50/slice?



10. What is the profit-maximizing level of output and how much daily profit will the producer below (who is the same producer as in #9) earn if the price of pizza is \$1.18/slice?



On my honor, as an Aggie, I have neither given nor received unauthorized aid on this assignment.

Signature _____