Econ 3324 Spring 2012

Managerial Economics R. Claycombe

First Exam

Write all answers in your blue book and show all work there. Return your exam in your blue book.

23 pts.

1) a) Draw a reasonable diagram showing demand, MR and MC and use it to explain why it is unprofitable to charge a price that leaves MR > MC.
b) Use your diagram to show the excess of MR over MC (TR- VC) at your quantity.
c) Use your diagram to show the profit maximizing Q when the firm can price discriminate perfectly (first degree). Show the excess of MR over MC in this case. Is it bigger than in part b?

18 pts.

2) Suppose that $Q_D = 1000 – 3P$ and $TC = 100 +2Q +Q^2/10$
a) Find the profit maximizing P and Q.
b) If the firm can price in two parts, how will work if it is able to capture every possible dollar of profit? Just draw a diagram to show what the values are.

23 pts.

3) Spreadsheet problem: Create a well-labeled spreadsheet that demonstrates parts a and b. Suppose that a firm can segment its market so that $Q_A = 100 – 4P$ and $Q_B = 500 -50P$.
a) If $TC = 10 + 2Q$, find P_A, P_B and profit.
b) If $TC = 10 + 2Q$ and Q can't exceed 100, find P_A, P_B and profit.
c) If $TC = 10 + Q + .1Q^2$, find P_A, P_B and profit and draw a 3 frame diagram of the solution. (Show MC, MR, P and Q.)
d) What could you change to make market B unserved. Make explicit reference to the equations.

18 pts

4) If $\ln Q = a + b\ln P$
a) What does the elasticity equal.
b) Use calculus to show this.
c) If $Q = AP^b$, what does the elasticity equal?

18 pts.

5) a) If (P-MC)/P = .2 and elasticity is 2, is profit maximized? Explain.
b) If Q = a + bP, draw a well-labeled diagram that depicts the situation in part a.
c) Given parts a and b, what can you say about the profit maximizing price?

I have neither given nor received unfair aid on this test nor am I aware of anyone else who has.

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