

First Exam

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

8 pts.

1) As in chapter 1, devise your own example of an error in decision making. Which of the six steps of decision making does your example fit?

32 pts.

2) Suppose a firm's demand is $P = 20 - Q$,

a) What is the MR equation?

b) Draw a well-labeled TR diagram.

If $MC = 10 - Q + .1Q^2$.

c) Draw a well-labeled MC curve

d) Solve for the profit maximizing Q. Show work.

e) Which will rise more if Q increases above 4, TR or TC? Why?

f) If the firm wants maximize TR, what should Q be?

g) Suggest an example when a firm might want to maximize TR.

8 pts

3) Confirm that you have a maximum in problem 2d using the second derivative.

12 pts. We have the lab for only twenty minutes, so do this problem first and after you have printed your results head upstairs to finish.

4) Use a spreadsheet and the solver to do part 2d. When you are ready to print it, type your name into it and print it two ways: once in the ordinary way and once showing the formulas, which is done by hitting ctrl and ~ , (below the esc key). Ask for help if necessary.

12 pts

- 5) a) Find dQ/dP if $\ln Q = a + b \ln P$
b) Find the price elasticity for part a.
c) Draw sketch that shows the shape of this demand curve.

8 pts

- 6) a) If elasticity is .5, does it seem that profit is maximized? Why?
b) What should happen to price in part a?

8 pts

- 7) Use the “full cost” markup rule to critic the price when $MC = 5$, $P = 10$ and elasticity is 2.

12 pts

- 8) a) Draw a well-labeled diagram showing market segmentation used to maximize profit when MC is constant.
b) Now add a third frame to your diagram with an upward sloping MC that goes with the first two frames.

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