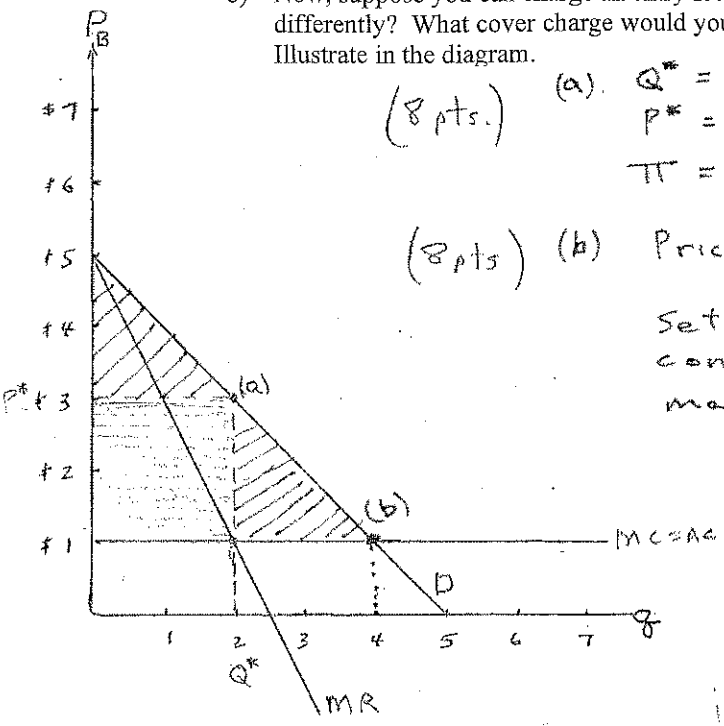
ECO 610 Fall 2016 Problem Set #8

KEY (15 pts. total, 5 pts. for each part.)

1. You own and operate a bar close to the UK campus. After some experimentation, you determine that on any given Wednesday night the typical male patron has the following demand for beer: $q = 5 - P_B$. P_B is the price per beer and q is number of beers each male patron chooses to consume on any given visit to your bar. Your costs for beer are MC = AC = \$1.
   a) What price per beer will maximize profit, how many beers will each patron consume, and what will you earn on each customer? Illustrate in a diagram.
   b) Now, suppose you can charge an entry fee or cover charge to get in the bar. Would you set P_B differently? What cover charge would you set? What profits will you earn on each customer? Illustrate in the diagram.



(8 pts.) (a) $Q^* = 2$ where $MR = MC$

$P^* = 3$ " " "

$\pi = (P^* - AC)Q^* = (3-1)2 = \$4 \Rightarrow$

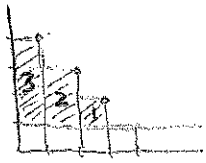
(8 pts) (b) Price per beer: P_B - set $P_B = MC = \$1$

Set cover charge equal to consumer's surplus when typical male patron consumes 4 beers @ \$1 each

$CV_M \Rightarrow$  $= \frac{1}{2}(4)(4)$

$= \$8$

Alternatively:

$CV_M = 3 + 2 + 1 = \$6$ 

   c) Finally, let's consider how your overall pricing strategy affects the number of customers who come to your bar. Suppose $F = 50 - 10CV_F$ and $M = 35 + F - 5P_B - 2CV_M$, where F is the number of female customers, M is the number of male customers, CV_F is the cover charge for female patrons, and CV_M is the cover charge for male patrons. Discuss conceptually (don't calculate) how you might take these interactions into account in setting the price for beer and the cover charges for males and for females. Why might setting different beer prices for males and for females be problematical?

If the MBA consulting team you hired to conduct this demand study has given you accurate information, then you know the following. Female demand depends on the cover charge alone. Women are not sensitive to the price you charge for beer. If you do not charge them an entry fee, then 50 women will show up at your bar.

Male demand depends of the number of women in your bar, the price of beer, and the entry fee that you charge for men. If you let women in for free, set the price of beer at \$1, and charge \$6 entry fee for men, then (35+50-5-12=68) men will show up in your bar.

Since the number of female patrons is relatively sensitive to the female cover charge, and the number of male patrons is relatively sensitive to the number of female patrons and the price of beer, then it would seem to make sense to declare "lady's night—no cover charge for women", set the price of beer at marginal cost, and make your profits by gouging males with a stiff cover charge.

Since it is impractical to monitor and control "resale" of beer inside your bar, if you charge a higher price to females for beer than you charge males, then you probably won't sell very many female beers. This might not be a bad marketing idea, however, if it promotes more social interaction inside your bar as males offer to buy drinks for females.