PROBLEM SET TWO--MBA 5110

1) A monopolist can segment its market into two sub-markets, call them 1 & 2. The demand in the submarkets is:

$P_1 = 20 - q_1/2$ & $P_2 = 35 - q_2$.

Also, $C = \$200 + 5Q$, with $Q = q_1 + q_2$.

a) Find the profit-maximizing P_1, P_2, q_1, q_2, & π, & find E_P^D in each sub-market at the profit-maximizing P & q.
b) Which sub-market gets the lowest P? Why?
c) If the firm's capacity is 25, find the profit-maximizing P_1, P_2, q_1, q_2, & π.

2) Using Figure 1, should the firm that can divide its buyers into two sub-markets sell 40 units in sub-market 1 & 60 units in sub-market 2?

3) Suppose a monopolist has demand of $P = 340 - Q$, & $C = \$40Q$. Find the profit-maximizing P, Q, & π when:
a) the firm can <u>not</u> 2-part price; &
b) the firm <u>can</u> 2-part price & all consumers are identical. In this part find the optimal entry fee (f) if there are N consumers.

4) In Figure 2, there are 2 types of consumers, Alphas & Betas. If the seller can not segment its market, what will the prices for quality levels 1 & 2 (P_1 & P_2) equal? If the seller can degrade lower quality to some level $x_0 < x_1$, when will it be profitable to do so, & what will P_0 & P_2 be?

Figure 1

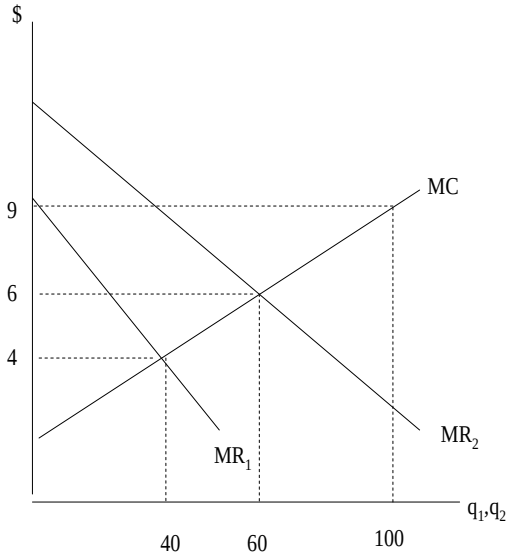

Figure 2