

UC Berkeley
Economics 121
Spring 2006
Prof. Joseph Farrell
Problem Set #3

Due at the **beginning** of class April 6, 2006. Feel free discuss the problem set with other students in the class, but you should write up the solutions in your own words. Be sure to show your work.

1. Each month, an airline sells 1,500 business-class tickets from San Francisco to Los Angeles at \$200 per ticket and 6,000 economy-class tickets at \$80 per ticket.
 - a. Use this information to construct the demand curves for tourists and business travelers, if it is given that the demand curves for both groups are linear and that the marginal cost of a ticket is \$50. Assume that the airline knows the demand curves and maximizes profits, and can treat business class and economy class as separate markets.
 - b. What are the equilibrium quantities and price if the airline cannot price discriminate?
 - c. Suppose that business travelers have access to a travel agent, who can look for the best fare among 10 (symmetric) airlines. Leisure travelers call airlines directly and they only have the time to call one airline. What are the new prices and quantities under price discrimination? Comment on the effect of price discrimination in the two cases.
2. A monopoly can sell to 2 groups of consumers, whose demand functions are:
 $q_1=100-p_1$
 $q_2=120-2p_2$
The monopoly's cost function is $c(q_1, q_2)=1800 + 20(q_1+ q_2)$
 - a. What is the competitive price? What is the monopoly's profit at that price?
 - b. What are the Ramsey prices and quantities (assuming there is a breakeven condition)? You may need to use the quadratic formula:
$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$
 - c. Note that there are two sets of prices and quantities that satisfy the breakeven condition. Which is the preferred set and why?