MGEC02 - TOPIC 2 - Homework

2.1 a monopolist in a single market

Consider a firm with monopoly power that faces the demand curve $P = 100 - 3Q + 4\sqrt{A}$ and has total cost function $C = 4Q^2 + 10Q + A$ where A is the level of advertising expenditure, and P and Q are price and output. Find the values of A, Q, and P that maximize the firm's profit. Calculate the Lerner Index of market power LI = (P-MC)/P for the firm.

2.2 a monopolist in two markets

A monopolist faces two geographically separate markets (east coast and west coast). Demands in the two markets are: P1 = 15 – Q1, and P2 = 25 – 2Q2. The monopolist's total cost is C = 5 + 3Q, where Q = Q1+Q2. What are the optimal price, output, and profits for the monopolist? What is the deadweight loss as a percentage of profit?

2.3 perfect price discrimination with a two part tariff

As the owner of the only tennis club in an isolated wealthy community, you must decide on membership dues and fees for court time. There are two types of players,