
Problem Set 1

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Total possible points = 10.

(8 points if you attempt all questions and 2 points for answers being correct).

Due date: Friday Jan 18th beginning of class.

1. Profit Maximization Problem. (Similar to Ch.1 Question 9 from the book)

An analyst discovers the following about the demand for attendance at a local football team's games:

$$P = 180 - 4A$$

where P is the ticket price, measured in dollars, and A is their attendance measured in thousands of fans. Assume that marginal cost is \$20, and total cost is $20A$.

1. Suppose the goal of the analyst is to maximize profit for the team. Set up the profit maximization problem faced by the analyst.

2. Take the first order derivative and find the optimal level of A^* and P^* . (Hint: Set up equation in terms of only A and take the derivative with respect to A and set it equal to 0)
3. What is the profit level associated with the optimal level of A^* and P^* . (Hint: plug in A^* and P^* in the profit function.)