MAT 263/263A

Maximizing Profit

*Directions:*

1. Carefully read through the problem below and list your given information.
2. Using the given information, identify what you are solving for.
3. Apply the correct derivative test to maximize or minimize.
4. Identify the number of units and the corresponding price that maximizes the profit.
5. Check your solution, does it appear reasonable?

The demand equation for a monopolist is  and the cost function is  where *x* is the number of units produced.

1. Find the value of *x* that maximizes the profit and determine the corresponding price and total profit for this level of production.
2. Suppose that, in order to spur economic activity, the government reduces taxes so that the monopolist’s costs are reduced by $1,000,000. What is the resulting change in the monopolist’s profit?