

Homework 7
Econ 361
Intermediate Microeconomic Analysis
30 points

1. (3 points) Under what real-world conditions (tell a story with a concrete example) might a competitive industry be an increasing cost industry? A decreasing cost industry?

2. (3 points) Under what condition or conditions will a firm (any firm) experience positive producer surplus in the long run? Explain by presenting a specific example.

3. (4 points) Suppose the firms or firm in an industry are characterized as follows:

$$TC = 100 + 2q^2$$

$$\text{Demand: } P = 90 - 2Q$$

a. If there is one firm in this industry, find the monopoly price, quantity, and profit.

b. Now find the price, quantity, and profit if the industry is competitive.

4. (4 points) A monopoly faces a demand curve given by $P = 4000 - 4Q$, where P is price and Q is quantity. Its total costs are given by $TC = 200 + 2Q^2$.

a. Calculate the deadweight loss due to monopoly power in this market. Provide the number and show all of your work.

b. Provide an intuitive explanation for why the area of deadweight loss represents the quantification of efficiency losses (the social costs) in this market.

5. (6 points) A monopolist hires you to help him determine the profit-maximizing price for his product.

a. Provide the monopolist with the **derivation** of a simple pricing rule. Writing down the rule does not count—you must **derive** it.

b. Now explain to the monopolist how he should use the rule, for the full range of demand elasticities that he might face. Be sure you not only explain how to use the rule, but also *why* the rule works in the way it does.

c. An unregulated monopoly has a cost function given by $TC = 400 + 5q$ and faces a demand curve with a price elasticity equal to -1.5. If the monopoly can only charge one price, what is that price?

6. (3 points) True, false, or uncertain? The greater the wage elasticity of supply, the greater will be the monopsony power of a sole employer. Explain.

7. (3 points) Under what conditions will consumers benefit from price discrimination?

8. (4 points) For each scenario below, identify the profit-maximizing pricing strategy, provide the graph that characterizes the strategy and explain the graph using appropriate equations. All of the sellers have the ability to price discriminate.

- a. Shipping costs for a food distributor are lower by the truckload than by the box.
- b. Carpet salesmen negotiate prices with tourists in the bazaar.
- c. An amusement park charges an entry fee and a price per ride.
- d. Owners of rental cabins know that more families vacation along the North Shore of Lake Superior during summer months than during winter months.