

Recitation #11 – Week 04/12/2009 to 04/18/2009

Chapter 14 – Monopoly

Use the following information to answer the next four questions. The demand curve for a monopolist is given by $P = 100 - Q$, while the monopolist's marginal cost is $P = 3Q$. At the profit-maximizing level of output for the monopolist, the average total cost of production is equal to \$70.

1. This monopolist's MR curve can be written as

- a. $MR = 100 - Q$.
- b. $MR = 200 - Q$.
- c. $MR = 100 - (1/2)Q$.
- d. $MR = 100 - 2Q$.

2. For this monopolist the profit-maximizing level of output is equal to and the market price for this output is _____

- a. 20 units; \$80
- b. 20 units; \$60
- c. 25 units; \$75
- d. 50 units; \$50

3. Profits for this monopolist equal

- a. \$400.
- b. \$200.
- c. \$10.
- d. \$20.

4. The deadweight loss associated with this monopoly

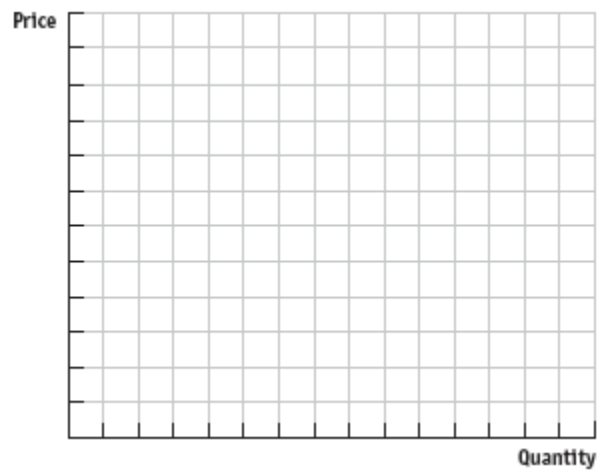
- a. cannot be calculated from the information given.
- b. is unimportant, since the monopoly is protected from competition due to the existence of effective barriers to entry.
- c. equals \$50.
- d. equals \$25.

Exercise 1

Suppose the following table describes the market demand schedule for a monopoly.

| Price (\$) | Quantity demanded (units) |
|------------|---------------------------|
| 1,000 | 0 |
| 800 | 400 |
| 600 | 800 |
| 400 | 1,200 |
| 200 | 1,600 |
| 0 | 2,000 |

a. Draw a graph of this market demand schedule for the monopoly.



b. Compute the firm's total revenue and marginal revenue figures for the table below. For the marginal revenue figures, use the midpoint method.

| Price (dollars) | Quantity demanded (units) | Total revenue (dollars) | Marginal revenue (dollars per unit) |
|-----------------|---------------------------|-------------------------|-------------------------------------|
| 1,000 | 0 | | |
| | | | |
| 800 | 400 | | |
| | | | |
| 600 | 800 | | |
| | | | |
| 400 | 1,200 | | |
| | | | |
| 200 | 1,600 | | |
| | | | |
| 0 | 2,000 | | |

c. Draw the monopolist's marginal revenue curve on the graph you drew in part (a) of this problem.

d. Write an equation for this monopolist's market demand curve and for its *MR* curve. Compare these two equations. What is true about the *y*-intercept of these two equations? What is the relationship between the slope of the demand curve and the slope of the *MR* curve?

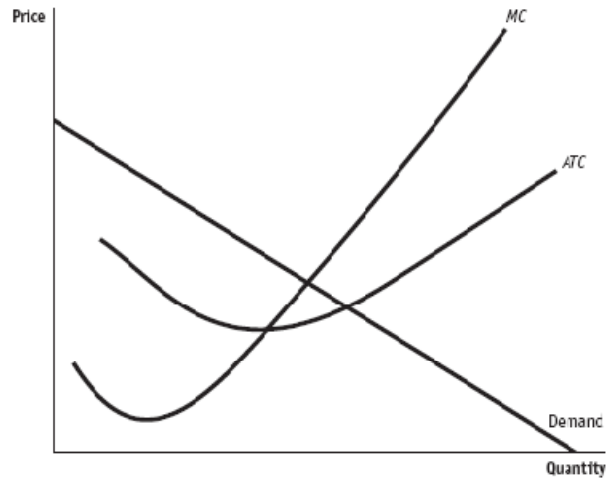
e. If the firm's marginal cost is constant and equal to \$200, what is this monopolist's profit-maximizing level of output and what price will this monopolist charge for this good? Label this quantity and this price on your graph.

f. On the graph you drew in part (a), shade in the area that corresponds to the consumer surplus and label it clearly. On this same graph, shade in the area that corresponds to producer surplus and label it clearly. Shade in the area that corresponds to deadweight loss and label it clearly.

g. Calculate the value of consumer surplus, producer surplus, and deadweight loss for this monopoly.

Exercise 2

The graph below represents a monopolist's cost curves and the demand curve for the monopolist's product. Use this graph to answer this set of questions.

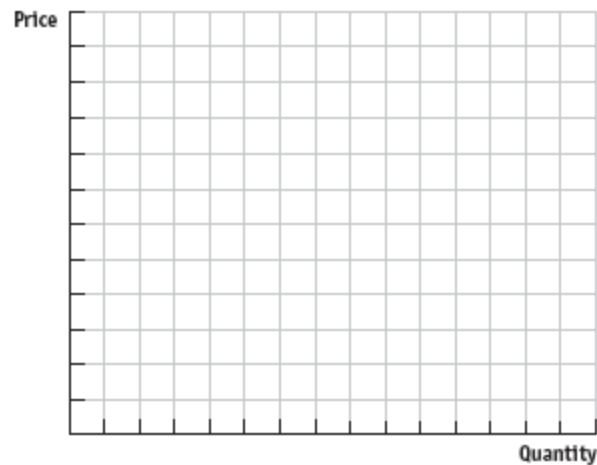


a. On the above graph, identify the monopolist's profit-maximizing level of output and label this amount Q_m (hint: don't forget that you will need to first find the monopolist's MR curve to answer this question). On the graph, label the price the monopolist will charge for the good as P_m .

b. Does this monopolist make positive, negative, or zero economic profit in the short run? Identify the area that represents profits in the above graph if the firm earns positive or negative profit.

c. What do you expect will happen to the monopolist in the long run? In your answer, be sure to identify what happens to the firm's profits, level of production, and price.

d. A newspaper runs an article on the benefits of consuming the product this monopolist produces. The result of this article is that demand for this product shifts to the right at every price. Redraw your graph with the old and the new demand curves, and then analyze what happens to output, price, and profits for this firm. Label the new output Q_m' , the new price P_m' , and identify the area that represents the firm's profits.



e. Given your answer in part (d), is there an incentive for a monopolist to try to increase the demand for its product?