

Question #76114, Economics / Microeconomics

Question: The following table shows the demand for a product produced by a monopolist, who has a constant marginal cost and an average total cost of \$45 per unit.

Quantity (thousands of units)	Price (dollars per unit)	TR	MR	MC
0	120	0	0	45
1	105	105	105	45
2	90	180	75	45
3	75	225	45	45
4	60	240	15	45
5	45	225	-15	45
6	30	180	-45	45

a) Calculate the total revenue and marginal revenue for each level of quantity.

$$TR = P * Q$$

$$MR = \frac{\Delta TR}{\Delta Q}$$

b) What are the profit-maximizing level of output and the price of the product?

Using MR=MC rule, profit is maximized at q=3 and p=75

c) Calculate the monopolist's profit.

$$\text{Profit} = TR - TC = 225 - 4 * 45 = 45$$

d) Calculate the Lerner Index for this industry.

$$E_d = \frac{(P_2 + P_1) * (Q_2 - Q_1)}{(P_2 - P_1) * (Q_1 + Q_2)} = \frac{(60 + 75) * (4 - 3)}{(60 - 75) * (4 + 3)} = -\frac{135}{105} = -\frac{27}{21}$$

$$L = -1/E_d = 105/135 = 21/27$$

Answer:

a) in a table

b) q=3, p=75

c) 45

d) 21/27

Answer provided by <https://www.AssignmentExpert.com>