

Econ 1
Test
Practice Problems on Monopoly

1. A monopolist faces a demand function that can be described by the equation $P = 410 - 10Q$ where P is the price that the monopolist charges per unit of output and Q is the number of units that the monopolist can sell at that price. The monopolist's total costs are $30Q$ and its marginal cost is 30. The following expression states the monopolist's profit as a function of the number of units sold:
 - (a) $410 - 10Q - 30$
 - (b) $410 - 20Q$
 - (c) $410Q - 10Q^2 - 30Q$
 - (d) $410Q - 10Q^2 - 10$
 - (e) None of the above

2. The monopolist found in the previous problem has a marginal revenue curve that is given by the equation (where MR stands for marginal revenue):
 - (a) $MR = 410 - 10Q$
 - (b) $MR = 410 - 30Q$
 - (c) $MR = 420 + 30Q$
 - (d) $MR = 410 - 20Q$
 - (e) $MR = 440 - 40Q$

3. In order to maximize its profits, the monopoly of the preceding questions should sell a quantity of
 - (a) 38 units
 - (b) 19 units
 - (c) 202 units
 - (d) 101 units
 - (e) 47.50 units

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4. Bozoworks, a software company, has exclusive rights to sell the game Space Morons. Bozoworks spent \$2500 getting the program ready to market. Its only remaining expenses are the cost of distributing the copies of Space Morons to buyers. This costs \$4 per copy. If Bozoworks sells Q copies, its total costs will be $\$2500 + 4Q$. Nobody is willing to pay more than \$50 for a copy of Space Morons. If Bozoworks offers to sell Space Morons at price p , all buyers with buyer values of p or greater will buy and all buyers with buyer values below p will not buy. There are 0 demanders who have buyer values of \$50 for a copy of Space Morons. For every dollar that the price falls below \$50, Space Morons picks up one more buyer. Thus there is 1 demander with buyer value \$49, one with buyer value \$48, one with buyer value \$47, and so on. Bozoworks' marginal revenue from increasing its sales from 0 to 1 is:
- (a) \$50
 - (b) \$0
 - (c) \$25
 - (d) \$49
 - (e) \$100
5. Which of the following formulas gives the highest price at which Bozoworks can sell Q copies of Space Morons, where $0 < Q < 50$?
- (a) $P = 50 - 2Q$
 - (b) $P = 50 - Q$
 - (c) $P = 50 - 2Q$
 - (d) $P = 50 - Q$
 - (e) None of the above
6. Where $0 < Q < 50$, if Bozoworks wants to increase its sales from Q to $Q + 1$, it will have to reduce its price on the Q units it was previously selling by one unit. This effect would reduce its revenue from the first Q units sold by $\$Q$. On the other hand, it could sell this extra unit for a price of $50 - (Q + 1)$. So its extra revenue from increasing its sales from Q to $Q + 1$ is given by:
- (a) $MR = 50 - Q$
 - (b) $MR = 5Q$
 - (c) $MR = 49 - 2Q$
 - (d) $MR = 50 - Q$
 - (e) $MR = 50 - 2Q$

7. Bozoworks can increase its profits by increasing its sales from Q to $Q + 1$ if and only if
- (a) the price is greater than \$5.
 - (b) the price is greater than its average cost.
 - (c) marginal revenue is greater than \$5.
 - (d) marginal revenue is greater than average revenue.
 - (e) average cost will decrease when an extra unit is produced.

ANSWER KEY
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Exam Question Number	Answer
1	C
2	D
3	B
4	D
5	B
6	C
7	C