Homework 4 – KEY

Average: 82.47 + 0pts GI bonus

Due on 17/9/2024, by 23:00

The tasks in this assignment were designed for the average student to solve independently after mastering the material. The answers provided here are written in an instructional manner to help you understand the problem-solving process for each task. If you continue to struggle with a task after reviewing this key, the difficulty may stem not from the task itself, but from having missed or overlooked some parts of the required material.

1. Which of the following is accurate?

    A. Monopolies always have positive profits. *[This depends on demand and cost]*

    89% **B.** **Monopolies always have market power.** *[They can set price above MC]*

    C. Both A and B.

    D. None of the above.

Quantity	1	2	3	4	5	6
Total Revenue	200	350	450	525	575	600
Marginal Cost	80	30	50	75	100	150

Table 4.1: The quantity, total revenue and marginal cost of a monopolist.

2. According to table 4.1, how many units will the monopolist produce?

    A. 1 unit.

    B. 2 units.

    11% C. 3 units.

    83% **D.** **4 units.**

    E. 5 units.

    F. 6 units.

[The monopolist will produce until $MR = MC$. From the table below where we calculate MR, we can observe that this happens at the 4th unit.

Quantity	1	2	3	**4**	5	6
Total Revenue	200	350	450	**525**	575	600
Marginal Revenue	200	150	100	**75**	50	25
Marginal Cost	80	30	50	**75**	100	150

3. According to table 4.1, how much will the monopolist charge?

    A. Around $100.

    B. Around $115.

    77% **C.** **Around $130.**

    13% D. Around $150.

    E. Around $175.

    F. Around $200.

*[Since $q = 4$ and total revenue is $525, price is $525/4 = \$131.25$ per unit]*

4. ✓ Which of the following is true for the profit maximizing markup for a firm with market power?

   A. A large markup guarantees profit. *[Large markup will lead to profit only when the FC is sufficiently small]*

   97%B. Inelastic products allow for higher markup. *[Markup depends negatively on the elasticity]*

   C. At the profit maximizing markup, $MR > MC$. *[At the profit maximizing markup, $MR = MC$]*

   D. None of the above.

5. Which of the following is considered rent-seeking?

   11%A. The high advertising costs for the public to become aware for a new product. *[Customer awareness is a natural cost of new products]*

   72%B. The legal cost of a frivolous lawsuit against a potential competitor to keep them out the industry. *[Rent seeking is when a firm spends resources to keep potential entrants out of the market in unfair ways]*

   C. The high price a monopoly charges. *[High prices characterize all profit maximizing monopolies]*

   14%D. All of the above.

6. ✓ Which of the following is more likely to increase VW's market power in Singapore for its non-EV vehicles?

   95%A. A ban on Toyota vehicles. *[Less competitors – more market power]*

   B. Stricter emission standards that VW does not meet. *[This will eliminate VW's market power]*

   C. An increase in the price of COE for non-EVs. *[This may decrease VW's market power]*

   D. A tax deduction for purchasing EVs. *[This may decrease VW's market power]*

Scenario 4.1: *The government imposes a sales tax on a previously untaxed PC good.*

---

7. ✓ According to scenario 4.1, which of the following is most likely to happen?

   A. The good's supply curve will shift down and right.

   93%B. The good's supply curve will shift up and left.

   C. The good's demand curve will shift up and right.

   D. The good's demand curve will shift down and left.

   [The sales on tax does not affect the demand and can be seen as an increase in producers' MC, thus the supply curve shifts up and left]

8. ✓ According to scenario 4.1, if the good's demand curve is vertical and its supply curve is upward sloping, which of the following is accurate?

   A. The burden of the tax will be split between the consumer and the producer.

   B. The burden of the tax will fall on the producer only.

   90%C. The burden of the tax will fall on the consumers only.

   D. The burden of the tax will be paid by the government.

   [As we can see in the diagram below, since the demand curve is perfectly inelastic, the equilibrium price will rise by the amount of the tax imposed, which means that the consumers will undertake the entire burden
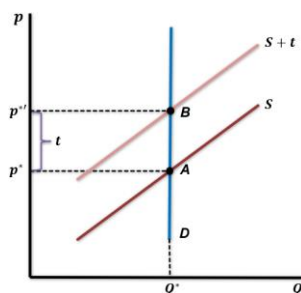
9. Suppose that the production of the new iPhone has $AVC = 140$. How much will the profit maximizing price be if the elasticity of demand for the iPhone is -1.1?

  A. Around $600.
  B. Around $900.
  C. Around $1,200.
44%D. Around $1,500.
  E. Around $1,800.
51%F. We have insufficient information to answer.

  [If $AVC = 140$, then $MC = 140$. Using the markup rule $p = MC \cdot \left(1 + \frac{-1}{1+\varepsilon_d}\right) = 140 \cdot \left(1 + \frac{-1}{1-1.1}\right)$
  or $p = 140 \cdot [1 + 10]$ or $p = \$1,540$]

10. Which of the following is always true for a profit maximizing monopolist?

  A. A change in the market demand does not affect the price. [Not true. Monopolists set the price at $MR = MC$ and MR is derived by the demand]
77%B. The monopolist controls the whole supply of the market. [The monopolist can supply as much as they desire]
  C. Both A and B.
19%D. None of the above.