

Homework 4 – KEY

Average: 85.74 + Opts GI bonus

Due on 11/2/2025, 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 could increase a firm's market power?

- A. Advertisement. *[It creates barriers to entry so that potential competitors will keep out of the market. Also, some consumers regard an advertised brand as superior]*
- B. Product differentiation. *[If a product is different from the competition, it will be harder for consumers to substitute it]*
- C. Acquisition of competitors. *[This increases the firm's market share and reduces competition]*

94%D. All of the above.

2✓ Which of the following is true for a profit maximizing monopolist?

- A. Price always exceeds the marginal revenue. *[Price is on the demand curve, which is always above MR]*
- B. Price always exceeds the marginal cost. *[At the profit maximizing quantity, $MC = MR$ and MR is always below demand which yields the price]*

86%C. Both A and B.

- D. None of the above.

Q_D	0	1	2	3	4	5	6
P	45	40	35	30	25	21	18

Table 4.1: The demand schedule for a monopolist

3✓ According to table 4.1, what is the profit maximizing quantity for the monopolist if $AVC = 20$?

- A. Zero.
- B. 1 unit.
- 14%C. 2 units.
- 79%D. 3 units.
- E. 4 units.
- F. 5 units.

[If $AVC = 20$ (constant), then $MC = 20$. Thus, we should look at which quantity $MR = 20$. From the table below we can observe that this happens at the 3rd unit:]

Q_D	0	1	2	3	4	5	6
P	45	40	35	30	25	21	18
R	0	40	70	90	100	105	108
MR	-	40	30	20	10	5	3

4✓ According to table 4.1, how much will the monopolist's profit be, if $AVC = 20$ and $FC = 10$?

- A. Zero.
- B. Around \$10.
- 88%C. **Around \$20.**
- D. Around \$30.
- E. Around \$40.
- F. Around \$50.

[Revenue is $3 \cdot 30 = \$90$ and cost is $20 \cdot 3 + 10 = \$70$, so profit will be $90 - 70 = \$20$]

5✓ "At the inelastic range of a downward sloping demand, MR is negative".

88%A. **Always true.**

- B. Always false.
- C. Sometimes true, sometimes false.

[For a downward sloping demand, as we move towards the right by increasing Q , P decreases (because of the law of demand). If demand is inelastic, the decrease in P causes R to decrease, that is $MR < 0$]

6✓ "A profit maximizing monopolist will always choose to supply quantity at the elastic range of the market demand".

78%A. **Always true.**

11%B. Always false.

11%C. Sometimes true, sometimes false.

[At the inelastic part of demand, $MR < 0$ and because for the monopolist $MC > 0$, the profit maximizing condition $MR = MC$ cannot hold at the inelastic range of the demand]

Quantity	1	2	3	4	5	6
Total Revenue	120	200	270	330	380	420
Variable Cost	50	70	100	140	190	250

Table 4.2: Quantity, total revenue and variable cost of a monopolist

7✓ According to table 4.2, how many units will the monopolist produce?

- A. 1 unit.
- B. 2 units.
- C. 3 units.
- 18%D. 4 units.
- 77%E. **5 units.**
- F. 6 units.

[From the table below, we can see that $MR = MC$ at $q = 5$, where $MR = MC = \$50$]

q	0	1	2	3	4	5	6
R	0	120	200	270	330	380	420
MR	-	120	80	70	60	50	40
VC	0	50	70	100	140	190	250
MC	-	50	20	30	40	50	60

8✓ According to table 4.2, how much will the monopolist charge?

- A. Around \$50.
- 85%B. **Around \$75.**
- C. Around \$100.
- D. Around \$125.
- E. Around \$150.

[Since the quantity is 5 units and total revenue is \$380, the price must be $380/5 = \$76$ per unit]

9✓ Which of the following is most likely to be the reason why governments impose sales-taxes on alcoholic drinks with highly inelastic demand?

- A. The tax would increase the producer's profits.
- B. The tax would increase the consumer's surplus.
- 10%C. The tax decreases DWL.

88%D. **The tax discourages consumption.**

[Due to the inelasticity of demand, the tax will increase the price by a large amount and will decrease the quantity demanded (by a relatively smaller one), leading to an increase of the DWL]

10✓ In most countries, there is absence of a human's organs market. Which of the following problems would an organized organ market fail to meet?

- A. The astronomical prices of human organs. *[An organized market could decrease prices]*
- B. The low supply of human organs. *[An organized market would incentivize more people to sell some of their organs, thus increasing the supply]*
- 81%C. **Only people with the ability to pay the market price will benefit from the market.** *[Unfortunately, not all patients would have the ability to take advantage of such a market]*
- 14%D. The huge DWL. *[An organized market could decrease the DWL]*