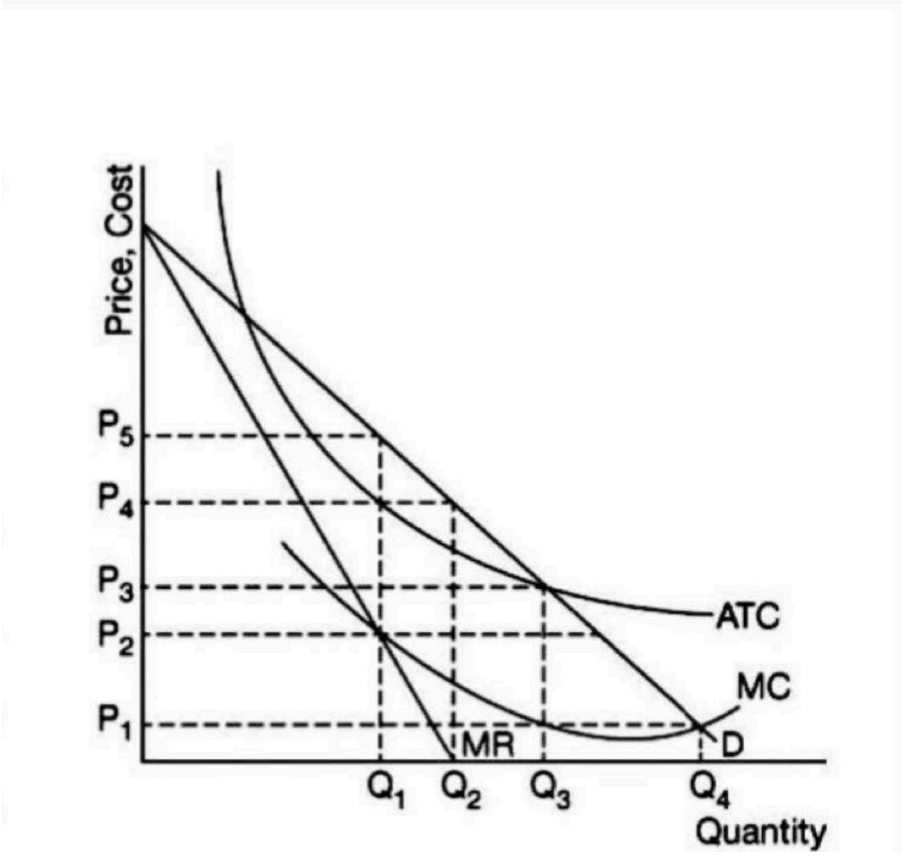
5. 2025 AP Micro MCQ Q24

Which of the following differentiates a profit-maximizing firm in a perfectly competitive market from a profit-maximizing firm in an imperfectly competitive market?

	A firm in a perfectly competitive market	**A firm in an imperfectly competitive market**
(A)	is a price maker	is a price taker
(B)	minimizes average total cost in the short run	maximizes total revenue in the short run
(C)	earns zero economic profit in the short run	does not earn economic profit in the short run
(D)	produces where price equals marginal cost	produces where price is greater than marginal cost
(E)	produces in the elastic region of its demand curve	produces in the inelastic region of its demand curve

3. 2021 AP Micro MCQ Q38



The graph provided shows the demand (D), marginal revenue (MR), marginal cost (MC), and average total cost (ATC) curves for a monopolist. If a regulatory agency requires that the monopolist set a price that earns the monopolist a normal profit, what price will the monopolist set?

(A) P_1

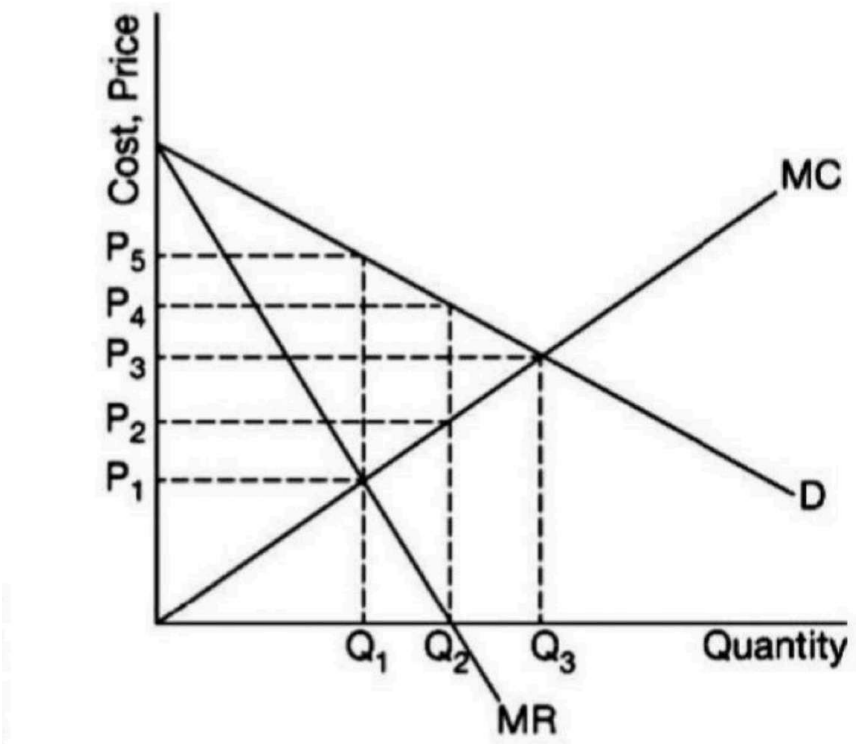
(B) P_2

(C) P_3

(D) P_4

(E) P_5

4. 2021 AP Micro MCQ Q50



Given the information in the graph provided, what is the monopolist's profit-maximizing quantity and price combination?

(A) Q_1, P_1

(B) Q_1, P_5

(C) Q_2, P_3

(D) Q_2, P_5

(E) Q_3, P_3

9. 2024 AP Micro MCQ Q19

The table provided shows cost and revenue information for Sigmoid, a profit-maximizing monopolist that produces and sells rocket toys.

	Value
Marginal revenue	$10

Marginal cost	$10
Price	$30
Average variable cost	$5
Average fixed cost	$3
Quantity	10 units

If Sigmoid's average fixed cost increases to $4 because of a change in rent, then its economic profit will

(A) remain the same

(B) decrease by $1

(C) decrease by $10

(D) decrease by $20

(E) decrease by $30

12. 2025 AP Micro MCQ Q50

Two monopolies with identical cost structures are compared. One is an unregulated profit-maximizing monopoly, and the other is regulated to produce the quantity at which it breaks even (earns zero economic profit). Which of the following accurately describes the difference between the two monopolies?

	The Unregulated Monopoly	The Regulated Monopoly
(A)	Charges a price equal to average total cost	Charges a price equal to marginal cost
(B)	Creates deadweight loss in the market	Eliminates deadweight loss from the market
(C)	Experiences economies of scale	Experiences diseconomies of scale
(D)	Collects all consumer surplus from the consumers	Transfers all consumer surplus to the government
(E)	Produces where marginal revenue equals marginal cost	Produces where price equals average total cost

Free-Response Questions

14. 2022 AP Micro FRQ Q1

A firm has a patent on a new carbon-capture technology, making it the only producer of that device. The firm is currently earning a positive economic profit and is producing the profit-maximizing level of output.

(a) Draw a correctly labeled graph for the firm and show each of the following.

(i) The quantity of carbon-capture devices produced by the firm, labeled Q_M

(ii) The price charged by the firm, labeled P_M

(iii) The area representing consumer surplus, shaded completely

(b) The government is considering different options to regulate the firm.

(i) Suppose the government is considering taxing the firm. Could using a per-unit tax change the firm's output to the socially optimal quantity? Explain.

(ii) Instead, suppose the government imposes a price ceiling so that the firm produces the socially optimal quantity. On your graph in part (a), label the quantity and price after the price ceiling is imposed as Q_C and P_C.

(iii) At the price and the quantity identified in part (b)(ii), is the firm earning positive economic profit? Explain.

(c) Assume the government decides not to regulate the firm and instead the firm produces the quantity of output that maximizes total revenue.

(i) If the firm now increases its output by one unit, would marginal revenue be positive, negative, or zero? Explain.

(ii) Starting at the total-revenue-maximizing quantity, if the firm reduces the price by 10%, would the quantity demanded increase by less than 10%, by more than 10%, or by exactly 10%?

16. 2025 AP Micro FRQ Q1(a)-(d)

Voda Reservoir is a profit-maximizing firm and the only producer of bottled water in a country. Currently, Voda Reservoir is earning negative economic profit.

(a) Draw a correctly labeled graph for Voda Reservoir and show each of the following.

(i) The profit-maximizing quantity, labeled Q_M

(ii) The profit-maximizing price, labeled P_M

(iii) The average total cost curve consistent with Voda Reservoir earning negative economic profit, labeled ATC

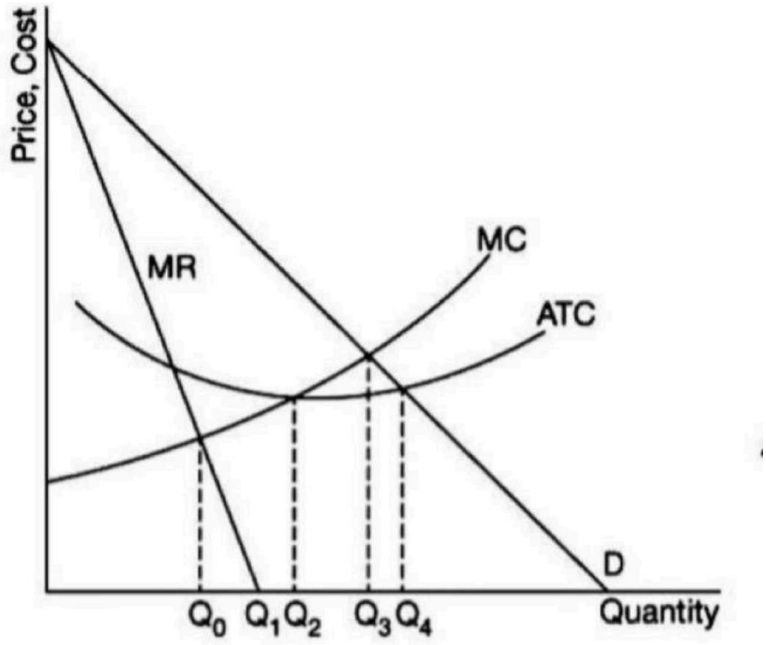
(iv) The area of deadweight loss, shaded completely

(b) Suppose the government requires Voda Reservoir to produce the socially optimal quantity of bottled water. On your graph in part (a), show the socially optimal quantity of bottled water, labeled Q_S.

(c) Suppose instead the government grants a per-unit subsidy to Voda Reservoir. What will happen to Voda Reservoir's profit-maximizing quantity of bottled water? Explain.

(d) Suppose new producers have entered the bottled-water market and Voda Reservoir continues to operate in the bottled-water market. Will the demand for Voda Reservoir's bottled water become more elastic, become less elastic, or stay the same as new producers enter the market?

1. 2021 AP Micro MCQ Q42



The graph above shows the demand (D), marginal revenue (MR), marginal cost (MC), and average total cost (ATC) curves for a monopoly. Based on the information in the graph provided, what is the profit-maximizing quantity for a monopolist that engages in perfect price discrimination?

(A) Q_0

(B) Q_1

(C) Q_2

(D) Q_3

(E) Q_4

2. 2021 AP Micro MCQ Q43

A profit-maximizing monopolist faces the market demand schedule provided and has a constant marginal cost of $5. If the monopolist engages in perfect price discrimination, its total revenue will equal which of the following?

Price ($)	Quantity demanded
1	9
2	8
3	7
4	6
5	5
6	4
7	3
8	2
9	1

(A) $10

(B) $15

(C) $25

(D) $35

(E) $45

5. 2023 AP Micro MCQ Q40

A firm with market power sells its product in two markets. The firm faces the same cost curves in both markets but faces a relatively elastic demand in one market for its product and a relatively inelastic demand in the other market for that same product. Which of the following will increase the firm's profits?

(A) The firm charges a lower price in both markets.

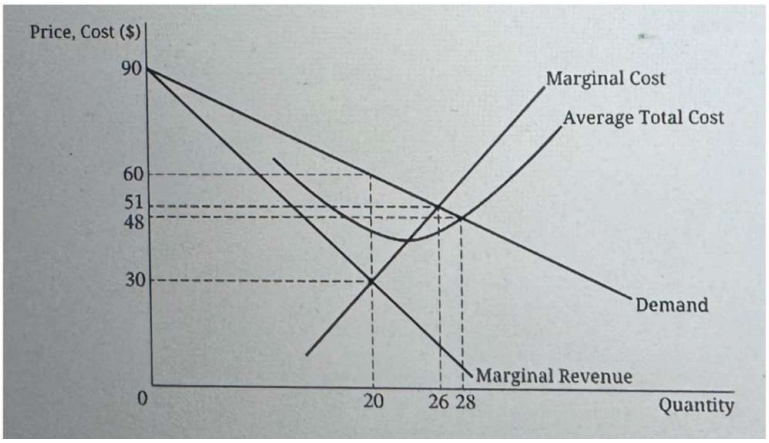
(B) The firm charges a higher price in both markets.

(C) The firm charges a price equal to its marginal cost in both markets.

(D) The firm charges a lower price in the market with elastic demand and a higher price in the market with inelastic demand.

(E) The firm charges a lower price in the market with inelastic demand and a higher price in the market with elastic demand.

8. 2025 AP Micro MCQ Q46



The firm operates in an imperfectly competitive market and produces the profit-maximizing quantity of output. If the firm could engage in perfect price discrimination, what would be the resulting consumer surplus and the change in deadweight loss?

(A) Consumer surplus would equal $0, and deadweight loss would decrease by $90.

(B) Consumer surplus would equal $0, and deadweight loss would increase by $90.

(C) Consumer surplus would equal $507, and deadweight loss would decrease by $90.

(D) Consumer surplus would equal $300, and deadweight loss would increase by $180.

(E) Consumer surplus would equal $630, and deadweight loss would decrease by $180.

5. 2023 AP Micro MCQ Q23

Greencom is currently producing 20 units of output. At this level of output, Greencom's marginal revenue is $6, marginal cost is $6, and average total cost is $9. If Greencom operates in a monopolistically competitive market and sells all 20 units of output for $10 per unit, it can be concluded that

(A) Greencom would earn more profit by decreasing output

(B) Greencom would earn more profit by increasing output

(C) Greencom is earning zero economic profit

(D) Greencom is earning negative economic profit

(E) Greencom is earning positive economic profit

6. 2023 AP Micro MCQ Q26

The table provided shows price and cost data for Howell's Toy Hoops, a typical profit-maximizing firm that sells its toys in a monopolistically competitive market. At the profit-maximizing quantity, the economic profit for Howell's Toy Hoops is

Quantity	Price ($)	Total Cost ($)
1	10	11
2	8	14
3	7	18
4	5	25
5	3	34

(A) −$19

(B) −$5

(C) −$1

(D) $2

(E) $3

10. 2025 AP Micro MCQ Q33

Brass With Class is a profit-maximizing firm that produces trumpets in a monopolistically competitive market. Brass With Class currently produces 100 trumpets and sells each trumpet at a price of $50. If the average total cost when producing 100 trumpets is $45, what is Brass With Class's total economic profit in the short run, and what adjustment will happen in the trumpet market in the long run?

	Economic Profit	**Long Run Adjustment**
(A)	−$500	Existing firms will exit the market.
(B)	−$5	Existing firms will exit the market.
(C)	$0	The market will be in long-run equilibrium.
(D)	$5	New firms will enter the market.
(E)	$500	New firms will enter the market.

11. 2025 AP Micro MCQ Q38

A firm in a monopolistically competitive market is producing the profit-maximizing quantity at 60 units of output at a price of $12 per unit. What is the firm's economic profit if the firm's average variable cost is $8, its marginal cost is $7, and its average fixed cost is $2 at 60 units of output?

(A) −$300

(B) $120

(C) $180

(D) $240

(E) $300

4. 2022 AP Micro MCQ Q24

RKB and JCM are two competing firms that are considering which project to develop. RKB will develop either Project Alpha or Project Beta. JCM will develop either Project X or Project Y. The payoff matrix provided shows the payoffs for each combination of strategies, and both players (RKB and JCM) have complete information. The first value in each cell represents the payoff for RKB, and the second value represents the payoff for JCM. Each firm independently and simultaneously chooses its strategy.

		JCM	
		Project X	**Project Y**
RKB	**Project Alpha**	$300, $400	$250, $250
	Project Beta	$350, $250	$400, $300

Which of the following conclusions is supported by the information in the payoff matrix?

(A) There is no combination of project choices that results in a Nash equilibrium.

(B) There are multiple combinations of project choices that result in Nash equilibria.

(C) RKB has a dominant strategy, but JCM does not.

(D) JCM has a dominant strategy, but RKB does not.

(E) Neither firm has a dominant strategy.

7. 2023 AP Micro MCQ Q47

Use the same payoff matrix as in the previous question. The advertising agency raises its prices, causing a firm that chooses to run ads to earn $200 less in profits. Once the firms adjust to the higher advertising prices, what is the total combined profit of the two firms in the new Nash equilibrium?

(A) $500

(B) $700

(C) $1,300

(D) $1,500

(E) $1,600

9. 2024 AP Micro MCQ Q57

Bygone2 and Cleared4U are two competing firms in the waste management industry. When deciding to invest in future technologies, each firm can choose to open a new recycling center or a new composting center. The payoff matrix provided shows the value of profits for each combination of strategies, and both firms have complete information. The first value in each cell represents the payoff for Bygone2, and the second value represents the payoff for Cleared4U. Each firm independently and simultaneously chooses its strategy. Which of the following statements is true?

		Cleared4U	
		Recycling	**Composting**
Bygone2	**Recycling**	\$45, \$47	\$42, \$37
	Composting	\$38, \$43	\$40, \$41

(A) Neither firm has a dominant strategy.

(B) Both firms have a dominant strategy to open a new composting center.

(C) Both firms have a dominant strategy to open a new recycling center.

(D) Cleared4U has a dominant strategy to open a new recycling center, and Bygone2 has a dominant strategy to open a new composting center.

(E) Bygone2 has a dominant strategy to open a new recycling center, and Cleared4U has a dominant strategy to open a new composting center.

12. 2024 AP Micro FRQ Q3

Nice Ride and Field Cruiser are the only two producers of vehicles. Nice Ride is deciding whether to improve Safety or Comfort. Field Cruiser is deciding whether to improve Reliability or Power. The payoff matrix shows the payoffs for each combination of strategies. The first entry in each cell shows Nice Ride's profit, and the second entry shows Field Cruiser's profit. Each firm independently and simultaneously chooses its strategy. Assume the two firms know all the information in the matrix and do not cooperate.

		Field Cruiser	
		Reliability	**Power**
Nice Ride	**Safety**	\$10 million, \$28 million	\$32 million, \$35 million
	Comfort	\$30 million, \$40 million	\$25 million, \$20 million

(a) What is Field Cruiser's most profitable strategy if Nice Ride chooses to improve Safety?

(b) Does Nice Ride have a dominant strategy? Explain using numbers from the payoff matrix.

(c) Is Nice Ride choosing to improve Safety and Field Cruiser choosing to improve Power a Nash equilibrium? Explain using numbers from the payoff matrix.

(d) Suppose Nice Ride and Field Cruiser decide to merge to maximize combined profits and choose to keep producing both Nice Ride and Field Cruiser vehicles. Assuming the values in the payoff matrix do not change, what would be the new firm's total profit?

(e) Suppose instead that a change in fuel prices reduces the profitability of choosing to improve Power by \$10 million for Field Cruiser. Identify each firm's profit at the Nash equilibrium.

13. 2025 AP Micro FRQ Q3

Tony's Trinkets and Bitaly's Bracelets are the only two firms in a town that produce and sell jewelry. Tony's Trinkets is deciding whether to produce Unique jewelry or Typical jewelry. Bitaly's Bracelets is deciding whether to produce Gold jewelry or Silver jewelry. The payoff matrix shows the payoffs for each combination of strategies. The first entry in each cell shows Tony's Trinkets' profit, and the second entry shows Bitaly's Bracelets' profit. Each firm independently and simultaneously chooses its strategy. Assume that the two firms know all the information in the matrix and do not cooperate.

		Bitaly's Bracelets	
		Gold	**Silver**
Tony's Trinkets	**Unique**	$15, $21	$20, $19
	Typical	$10, $7	$21, $16

(a) Suppose Bitaly's Bracelets chooses to produce Silver jewelry. Is choosing to produce Unique jewelry the best choice for Tony's Trinkets? Explain using numbers from the payoff matrix.

(b) Is Bitaly's Bracelets' dominant strategy to produce Gold jewelry, to produce Silver jewelry, or does it not have a dominant strategy? Explain using numbers from the payoff matrix.

(c) Identify all Nash equilibria for this game.

(d) Suppose Tony's Trinkets' profit from producing Typical jewelry increases regardless of what Bitaly's Bracelets does. What is the minimum amount by which Tony's Trinkets' profit must increase in order for Typical jewelry to become a dominant strategy: $2, $4, $6, $11, or $15?

(e) Suppose instead that these two firms now cooperate and merge into one firm to maximize their combined profits. The new firm will have two locations and continue to face the same actions and payoffs.

Calculate the new firm's maximum combined profit. Show your work.