LEARN

PRICE DISCRIMINATION

Price discrimination occurs when a firm with market power charges different prices to different consumers for the same product, even though the costs of producing for each consumer are the same. The goal is to increase profit by capturing some or all of the consumer surplus.

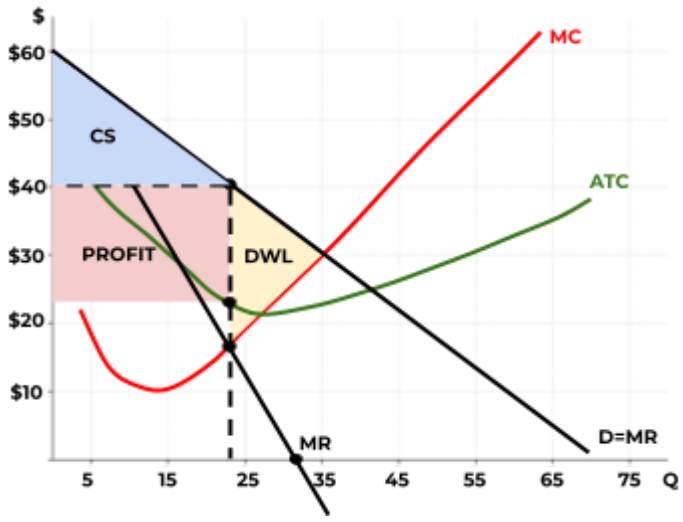
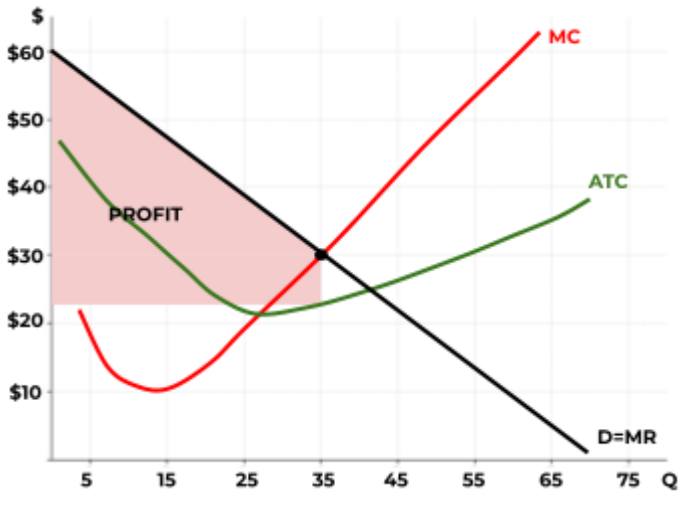
1ST DEGREE OR PERFECT PRICE DISCRIMINATION

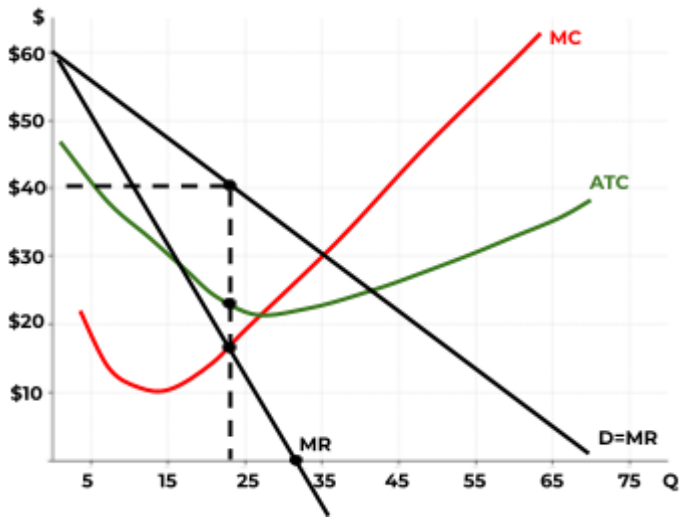
First-degree price discrimination, also called perfect price discrimination, happens when a firm charges each individual consumer the maximum price they are willing to pay for every unit they buy. In other words, the seller captures all of the consumer surplus, turning it into profit.

Under first-degree price discrimination, the firm produces the same quantity that would occur in a perfectly competitive market (where price = marginal cost), so total output is efficient and no deadweight loss exists. They are allocatively efficient, producing the socially optimal quantity. However, all of the surplus goes to the producer.

Examples:
Car dealerships: Salespeople often negotiate prices based on how much they think each buyer will pay.
College tuition: Universities use financial aid and scholarships to effectively charge different students different prices based on income and willingness to pay.
Online retailers: Some websites adjust prices dynamically based on browsing history or location data.

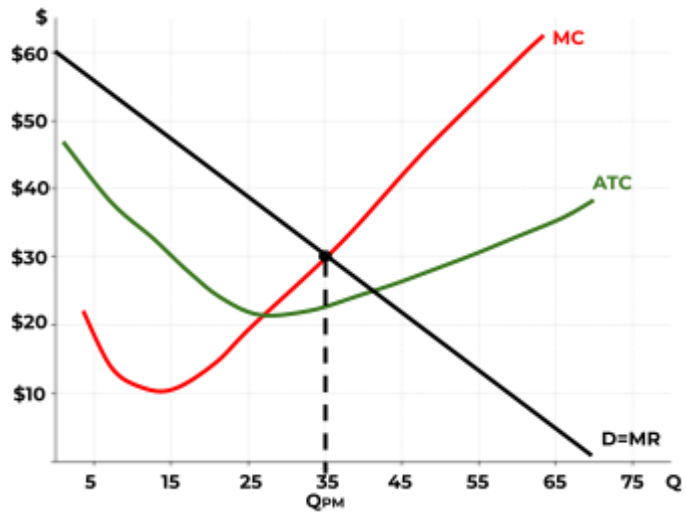
In short: first-degree price discrimination allows firms to maximize profit by tailoring the price to each individual's willingness to pay, which is efficient for society, but leaves consumers with no surplus.

TYPICAL MONOPOLY	PERFECTLY PRICE DISCRIMINATING MONOPOLY
	



TYPICAL MONOPOLY

Profit Maximizing quantity: 24
Price: $40
Consumer Surplus: (($60-$40) x 24)/2 = $240
Total Revenue: $40 x $24 = $960
Profit: ($40-$23) x 24 = $408
Elastic Range of Demand Curve: Less than 33
Socially Optimal Quantity: 35
No Economic Profit Quantity: 42
Dead Weight Loss: (($40-$18) x 11)/2 = $121



PERFECTLY PRICE DISCRIMINATING MONOPOLY

Profit Maximizing quantity: 35
Price: Varies by person
Consumer Surplus: $0
Total Revenue: ((($60-$30) x 35)/2)+($30 x 35) = $1,575
Profit: $245 + $525 = $770
Socially Optimal Quantity: 35
No Economic Profit Quantity: 42

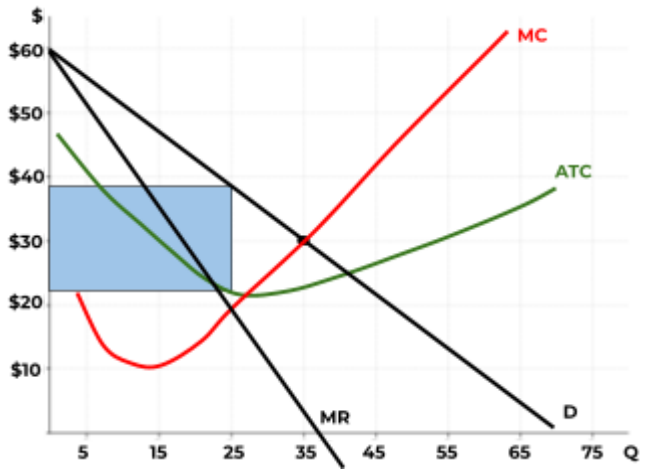
SECOND DEGREE PRICE DISCRIMINATION

Second degree price discrimination happens when a firm charges **different prices based on the quantity purchased or the version of a product**, rather than who the buyer is. Unlike first-degree (where each consumer is charged their exact willingness to pay) or third-degree (where consumers are grouped by characteristics like age or location), second-degree price discrimination lets consumers self-select into different price options.

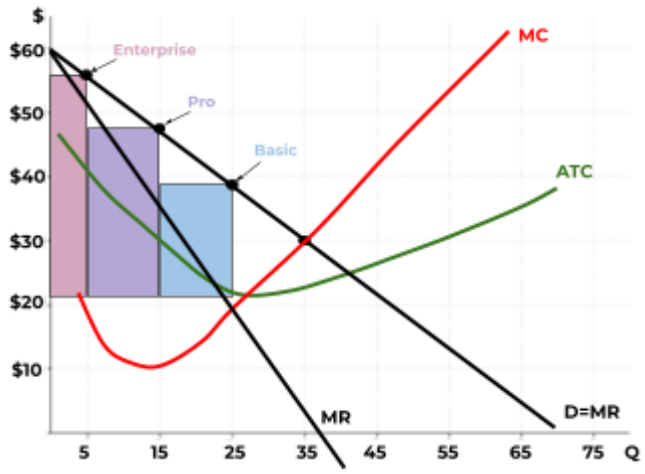
The key idea is that the firm designs pricing so that customers reveal how much they're willing to pay through their choices. Buyers who value the product more tend to choose the higher-priced option, while more price-sensitive buyers choose the lower-priced one.

Examples:
Bulk discounts: Buying 1 ticket costs $10, but 10 tickets cost $80. The per-unit price drops as you buy more, encouraging larger purchases.
Versioning: Software companies offer "basic," "pro," and "enterprise" packages at different prices for different features.
Utility pricing: Electric companies sometimes charge a lower rate after a certain number of kilowatt-hours are used, rewarding higher consumption.

In short: second-degree price discrimination uses pricing menus or quantity discounts to let consumers sort themselves, helping firms capture more profit while still offering choice.



TYPICAL MONOPOLY PROFIT
Profit: $17 x 25 = $425



SECOND DEGREE DISCRIMINATION MONOPOLY PROFIT
Enterprise profit: $34 x 5 = $170
Pro profit: $26 x 10 = $260
Basic profit: $17 x 10 = $170
Total profit: $600

THIRD DEGREE PRICE DISCRIMINATION

Third-degree price discrimination occurs when a firm divides consumers into different groups based on identifiable characteristics — such as age, location, or time of purchase — and charges each group a different price. The goal is to capture more consumer surplus by charging **higher prices to groups with less elastic demand** (less sensitive to price changes) and lower prices to groups with more elastic demand (more sensitive to price changes).

To do this, the firm must be able to:

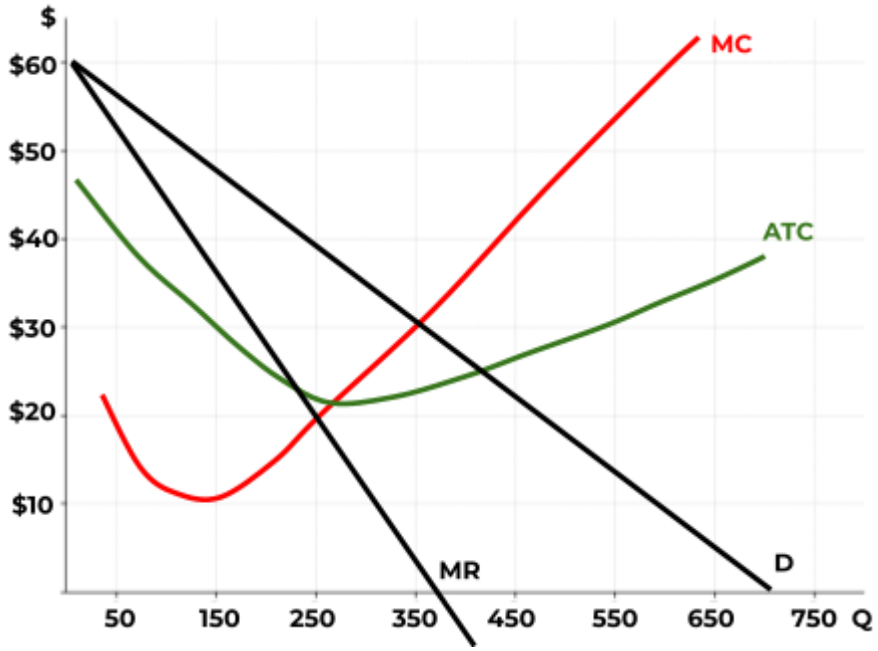
- Identify different groups of consumers, and
- Prevent resale between them (so a low-price buyer can't sell to a high-price buyer).

Examples:
Movie theaters: Students and seniors often pay less than adults for the same movie.
Airlines: Business travelers usually pay more for flexible, last-minute tickets, while vacationers pay less for advance, nonrefundable fares.
Geographic pricing: A streaming service might charge a lower subscription fee in developing countries than in the United States.

In short: third-degree price discrimination lets firms adjust prices across distinct consumer groups, increasing profits while often allowing more consumers to access the product than if there were just one uniform price.

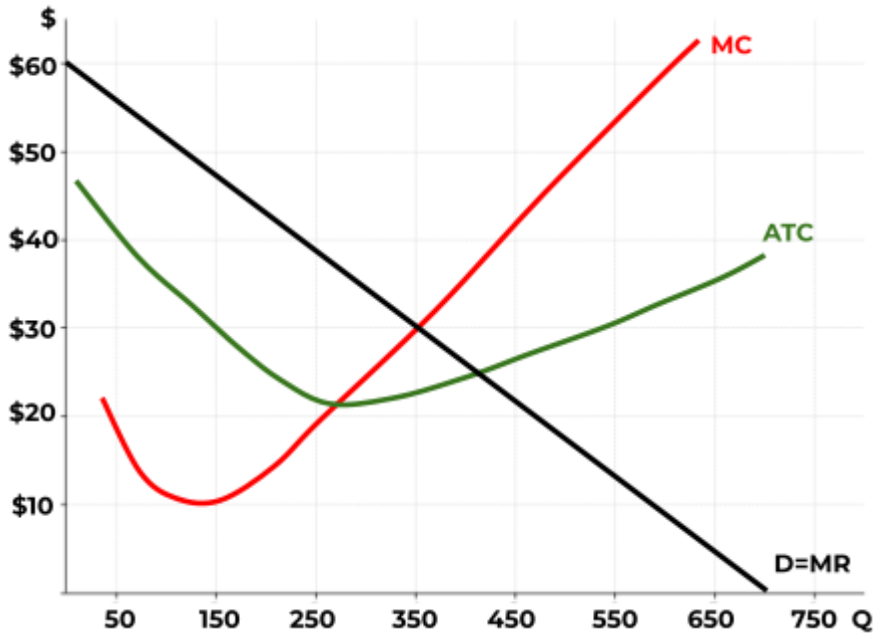
PRACTICE

Assume the graph below is for a profit maximizing monopolist. There is no price discrimination occurring.



QUANTITY PRODUCED	
PRICE	
MONOPOLIST'S TOTAL REVENUE	
MONOPOLIST'S PROFIT	**SHADE ON GRAPH ONLY**
CONSUMER SURPLUS	
DEADWEIGHT LOSS	
SOCIALLY OPTIMAL (ALLOCATIVELY EFFICIENT) QUANTITY	
REVENUE MAXIMIZING QUANTITY	
ELASTIC RANGE OF THE DEMAND CURVE	
BREAK EVEN PRICE	

Assume the graph below is for a perfectly price discriminating, profit maximizing, monopolist.

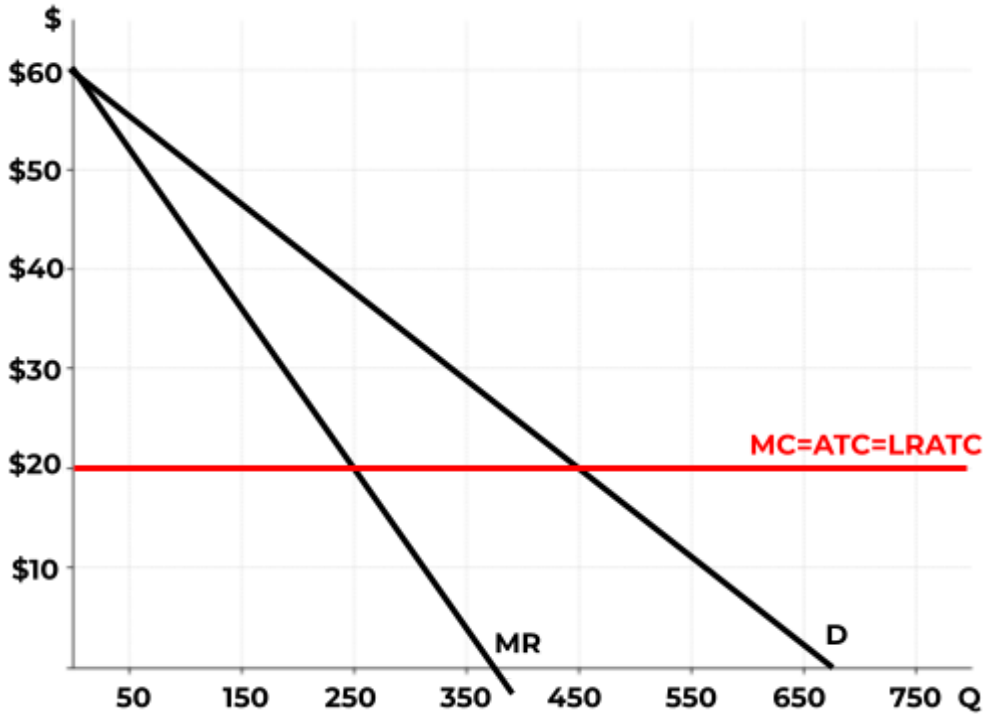


QUANTITY PRODUCED	
MONOPOLIST'S TOTAL REVENUE	
MONOPOLIST'S PROFIT	**SHADE ON GRAPH ONLY**
CONSUMER SURPLUS	
DEADWEIGHT LOSS	
IS THIS MONOPLIST PRODUCING THE SOCIALLY OPTIMAL (ALLOCATIVELY EFFICIENT) QUANTITY?	

1. Under first-degree price discrimination, compared with a single-price monopoly, which of the following outcomes will occur?
    a. Quantity produced decreases and consumer surplus increases.
    b. Quantity produced increases and consumer surplus falls to zero.
    c. Price and output remain unchanged.
    d. Total surplus decreases because of deadweight loss.
    e. Producer surplus decreases but efficiency improves.

2. When a software company sells a "basic" version for $50, a "pro" version for $100, and a "premium" version for $200, it is most accurately engaging in
    a. first-degree price discrimination by charging each buyer their exact willingness to pay
    b. second-degree price discrimination through versioning that allows consumers to self-select
    c. third-degree price discrimination based on consumer characteristics
    d. tying, because buyers must purchase all versions to use the product
    e. collusive pricing designed to drive out competitors

Assume the graph below is for a profit maximizing monopolist. Then, they determine they are able to perfectly price discriminate..



QUANTITY PRODUCED	
MONOPOLIST'S TOTAL REVENUE	
MONOPOLIST'S PROFIT	**SHADE ON GRAPH ONLY**
CONSUMER SURPLUS	
DEADWEIGHT LOSS	
IS THIS MONOPLIST PRODUCING THE SOCIALLY OPTIMAL (ALLOCATIVELY EFFICIENT) QUANTITY?	

3. A ski resort charges higher prices on weekends than on weekdays. This pricing policy is most likely an example of
    a. first-degree price discrimination
    b. second-degree price discrimination
    c. third-degree price discrimination
    d. predatory pricing
    e. natural monopoly pricing

PROVE - ADVANCED PRACTICE QUESTIONS

1. A monopolist engages in price discrimination when it
    a. charges a price equal to marginal cost for all consumers.
    b. charges the same price to all consumers regardless of demand.
    c. charges different prices to different consumers for the same good even though production cost is constant.
    d. increases output until marginal cost equals marginal revenue for each group of buyers.
    e. lowers price only when production costs fall.

2. Which of the following is a necessary condition for successful price discrimination?
    a. The product must be sold in perfectly competitive markets.
    b. The firm must face an inelastic supply curve.
    c. Buyers must be able to resell the product easily.
    d. The firm must be able to separate customers by differences in price elasticity of demand.
    e. Government regulation must set a single price.

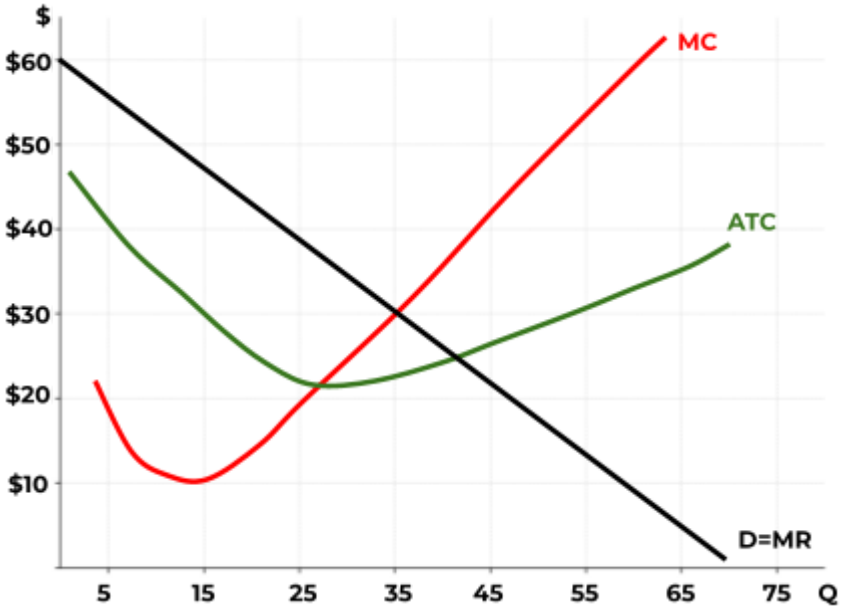
3. A movie theater offers discounted tickets to students and seniors because these groups
    a. have a higher willingness to pay than the general population.
    b. typically have a more elastic demand for movie tickets.
    c. are legally entitled to lower prices.
    d. face lower marginal costs of attending movies.
    e. are less responsive to price changes than other customers.

4. Which of the following best describes first-degree price discrimination?
    a. Charging each consumer the same price for every unit purchased
    b. Charging different prices based on observable characteristics like age or location
    c. Charging different prices for different quantities purchased
    d. Charging each consumer exactly what they are willing to pay for each unit purchased
    e. Charging below marginal cost to drive out competitors

5. Under perfect (first-degree) price discrimination, which of the following is true?
    a. Consumer surplus is zero, and total surplus is maximized.
    b. Both consumer and producer surplus increase.
    c. Producer surplus falls while consumer surplus rises.
    d. Deadweight loss increases relative to single-price monopoly.
    e. Output decreases relative to perfect competition.

6. If a monopolist can perfectly price discriminate, which of the following outcomes will occur compared to a single-price monopoly?
    a. Output will fall, and consumer surplus will increase.
    b. Output will rise to the efficient level, and consumer surplus will fall to zero.
    c. Output will remain the same, but price will increase.
    d. Output and price will both decrease.
    e. Deadweight loss will increase, and producer surplus will decline.

Assume the graph below is for a perfectly price discriminating, profit maximizing, monopolist.



7. What would be the profit maximizing quantity produced by this firm?
    a. 14
    b. 26
    c. 35
    d. 41
    e. 70

8. How much profit would the firm earn at the profit maximizing level of production?
    a. $0
    b. $525
    c. $600
    d. $805
    e. $1,025

9. What is the socially optimal quantity of production for this firm?
    a. 14
    b. 26
    c. 35
    d. 41
    e. 70

10. What is the value of the deadweight loss due to this firm being a monopoly?
    a. $0
    b. $30
    c. $100
    d. $200
    e. $1,050

SCAN TO SEE THE CORRECT ANSWERS AND EXPLANATION

WONDER - BEYOND THE GRAPH

*Read **The Economic Theory That Shows Ticketmaster Didn't 'Rip Off' Taylor Swift Fans** independently. Then, respond to the following three questions. Be prepared to discuss your answers with a partner and the whole class in order to be exposed to a variety of perspectives.*

1. How does Ticketmaster's use of dynamic pricing resemble a form of price discrimination, and what economic function does it serve?

2. Explain how the concept of demonstrated preference supports the argument that Ticketmaster did not "rip off" fans.

3. What does the concept of price discovery reveal about how markets determine the "right" price for goods like concert tickets, and why might government intervention interfere with this process?

TEACHER ANSWER KEY

PRACTICE

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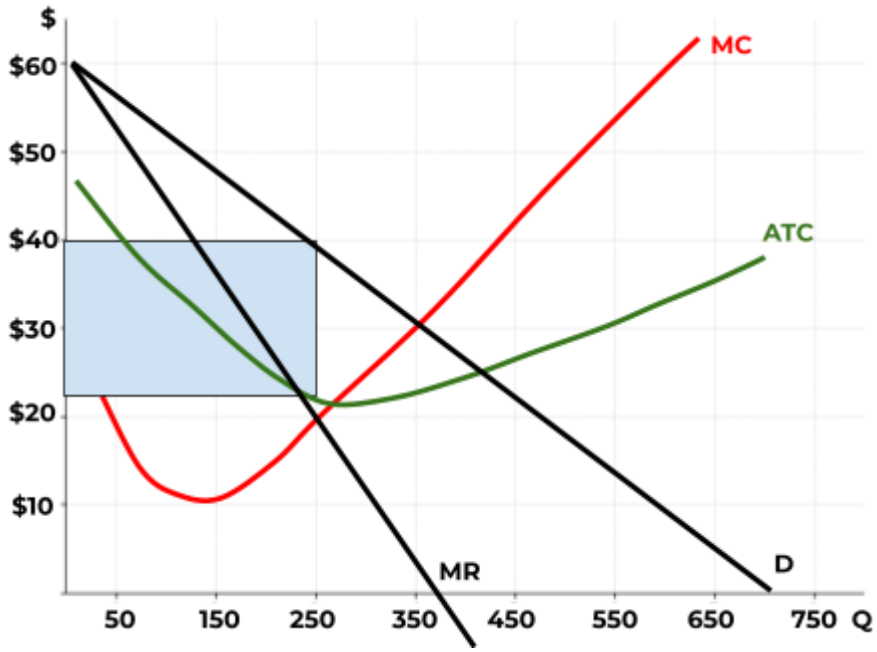
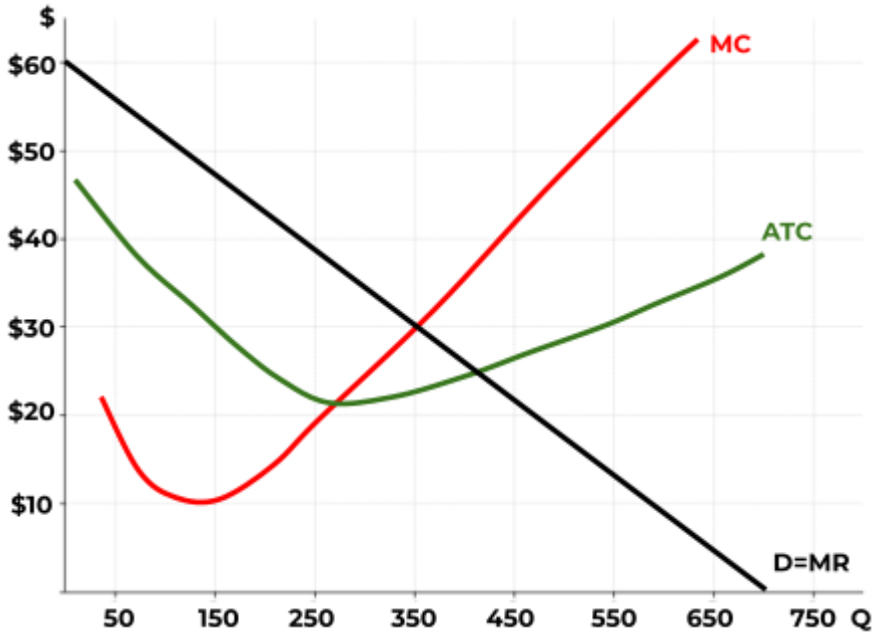


QUANTITY PRODUCED	250
PRICE	$40
MONOPOLIST'S TOTAL REVENUE	$10,000
MONOPOLIST'S PROFIT	SHADE ON GRAPH ONLY
CONSUMER SURPLUS	$2,500
DEADWEIGHT LOSS	$100
SOCIALLY OPTIMAL (ALLOCATIVELY EFFICIENT) QUANTITY	350
REVENUE MAXIMIZING QUANTITY	360
ELASTIC RANGE OF THE DEMAND CURVE	Less than 360
BREAK EVEN PRICE	$25

Assume the graph below is for a perfectly price discriminating, profit maximizing, monopolist.



QUANTITY PRODUCED	**350**
MONOPOLIST'S TOTAL REVENUE	**$15,750**
MONOPOLIST'S PROFIT	**SHADE ON GRAPH ONLY**
CONSUMER SURPLUS	**$0**
DEADWEIGHT LOSS	**$0**
IS THIS MONOPLIST PRODUCING THE SOCIALLY OPTIMAL (ALLOCATIVELY EFFICIENT) QUANTITY?	**Yes**

1. Under first-degree price discrimination, compared with a single-price monopoly, which of the following outcomes will occur?
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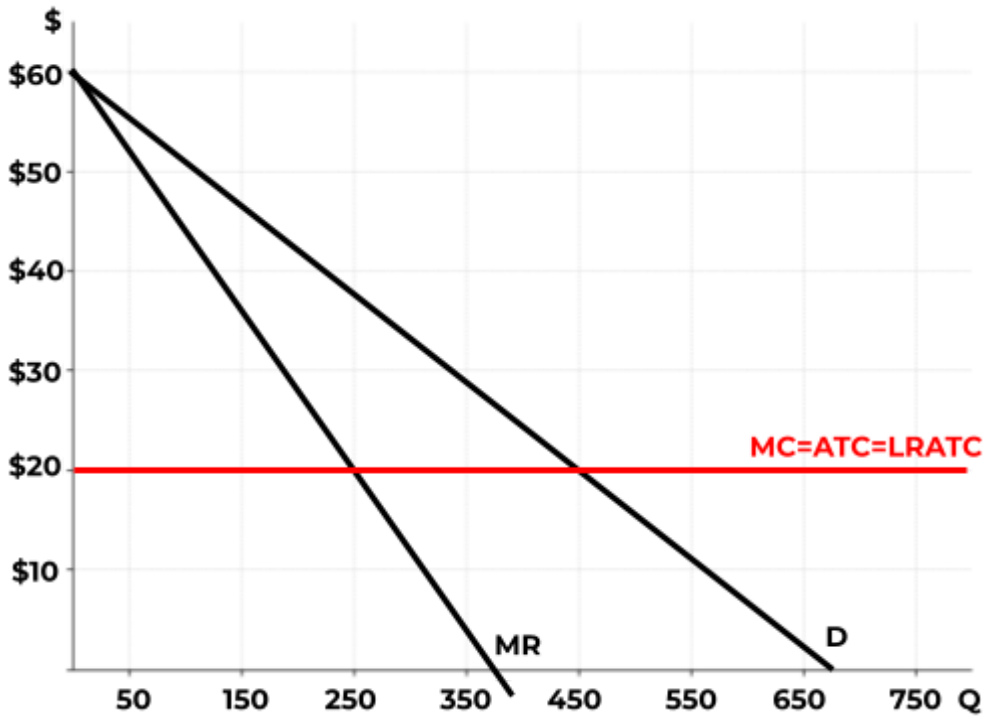

QUANTITY PRODUCED	**450**
MONOPOLIST'S TOTAL REVENUE	**$18,000**
MONOPOLIST'S PROFIT	**SHADE ON GRAPH ONLY**
CONSUMER SURPLUS	**$0**
DEADWEIGHT LOSS	**$0**
IS THIS MONOPLIST PRODUCING THE SOCIALLY OPTIMAL (ALLOCATIVELY EFFICIENT) QUANTITY?	**Yes**

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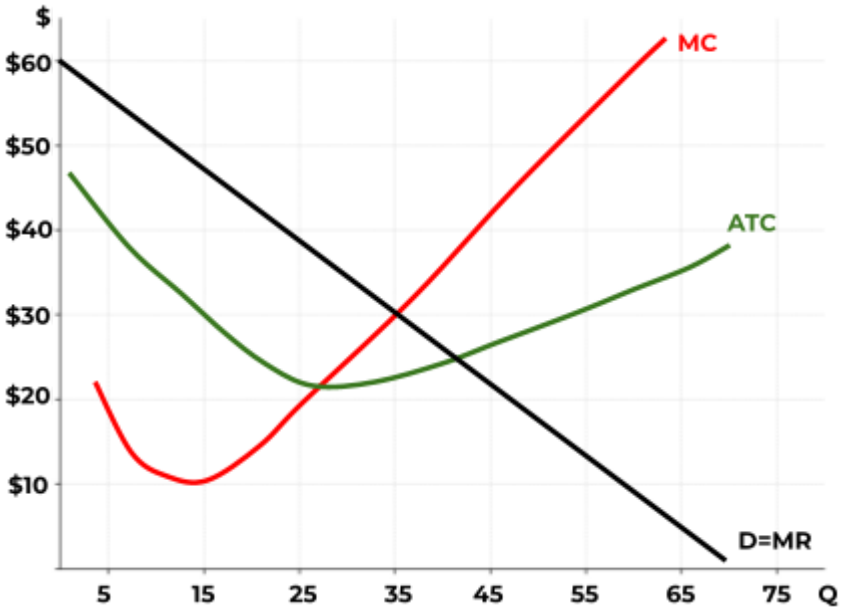

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1. How does Ticketmaster's use of dynamic pricing resemble a form of price discrimination, and what economic function does it serve?

Dynamic pricing is like real-time price discrimination because buyers with a higher willingness to pay end up paying more, while more price-sensitive consumers can wait for lower prices. This practice allocates scarce tickets to those who value them most and prevents shortages. From a free-market perspective, it's efficient because prices continually adjust to reflect true demand, ensuring that concert seats go to those who derive the greatest value from them without government interference.

2. Explain how the concept of demonstrated preference supports the argument that Ticketmaster did not "rip off" fans.

According to Murray Rothbard's idea of demonstrated preference, actions reveal real values more accurately than words. Even though fans complained about high prices, they still purchased the tickets. This shows that attending the concert was worth more to them than keeping their money. A free-market economist would argue that voluntary exchange—no matter how emotional the purchase—cannot be called exploitation when both sides freely agree on the price.

3. What does the concept of price discovery reveal about how markets determine the "right" price for goods like concert tickets, and why might government intervention interfere with this process?

Price discovery is the ongoing process where buyers and sellers, through voluntary exchange, reveal how much a good is truly worth. In the case of Taylor Swift tickets, Ticketmaster's dynamic pricing helped discover the price that balanced intense fan demand with limited supply. A free-market economist would argue that there is no "correct" price set by politicians—only the one revealed through actual transactions. Government intervention, such as price caps or antitrust action, distorts this process by replacing real market data with arbitrary rules, often leading to shortages or inefficiency.