

Microeconomics, Module 12: "Price Discrimination" (Chapter 10)

*Illustrative Test Questions*

(The attached PDF file has better formatting.)

Question 12.1: Price Discrimination

All but which of the following are true regarding price discrimination?

- A. First-degree price discrimination entails charging the most each customer is willing to pay.
- B. Second degree price discrimination entails charging a customer different prices for the same good.
- C. Third degree price discrimination entails charging different prices in different markets.
- D. Price discrimination reduces consumers' surplus compared to monopoly with no price discrimination.
- E. Price discrimination increases producers' surplus compared to monopoly with no price discrimination.

Answer 12.1: D

Price discrimination may increase or decrease consumers' surplus.

Question 12.2: Rationale for Price Discrimination

Which of the following is the rationale for price discrimination?

- A. Price discrimination is a method of acquiring monopoly power.
- B. Price discrimination is used by competitive firms who otherwise lack market power.
- C. Price discrimination is used by monopolists who seek to increase producers' surplus.
- D. Price discrimination is used by the government to increase social welfare.
- E. None of A, B, C, or D is true.

Answer 12.2: C

Only firms who already have monopoly power can engage in price discrimination. The government generally seeks to eliminate price discrimination, even though price discrimination often increases social welfare, unless the producer shows evidence of different costs for different consumers or another socially acceptable rationale for price discrimination. Greater social welfare is not generally an acceptable rationale.

Question 12.3: Capturing Social Gain

Which of the following is true regarding capturing social gain?

- A. First degree price discrimination captures all of the social gain for the monopolist.
- B. Second degree price discrimination captures all of the social gain for the monopolist.
- C. Third degree price discrimination captures all of the social gain for the monopolist.
- D. The monopolist can never capture all the social gain.
- E. None of A, B, C, or D is true.

Answer 12.3: A

With first degree price discrimination, the monopolist captures all the social gain; there is no dead weight loss.

Question 12.4: Consumers' Surplus and Producers' Surplus

Which of the following is true regarding third degree price discrimination?

- A. Third degree price discrimination increases consumers' surplus.
- B. Third degree price discrimination decreases consumers' surplus.
- C. Third degree price discrimination increases producers' surplus.
- D. Third degree price discrimination decreases producers' surplus.
- E. None of A, B, C, or D is true.

Answer 12.4: C

The monopolist seeks to increase its surplus. The effect on consumers' surplus is ambiguous; consumers' surplus may increase or decrease.

Question 12.5: Gains from Price Discrimination

Which of the following is true regarding gains from price discrimination?

- A. Both producers and consumers gain from first degree price discrimination.
- B. Both producers and consumers gain from second degree price discrimination.
- C. Both producers and consumers gain from third degree price discrimination.
- D. Consumers never gain from first degree price discrimination.
- E. Consumers never gain from second degree price discrimination.

Answer 12.5: D

Consumers generally gain from second degree price discrimination, though not always. With first degree price discrimination, the monopolist captures all the social gains, so the consumers do not gain anything.

Question 12.6: Third Degree Price Discrimination

Third degree price discrimination entails dividing a market into two segments where

- A. Consumers have different incomes.
- B. Consumers have different marginal costs.
- C. Consumers have different price elasticity of demand.
- D. Consumers have different price elasticity of supply.
- E. None of A, B, C, or D is true.

Answer 12.6: C

Different incomes often lead to different price elasticities of demand, but the important item is the price elasticity of demand, not the income. Marginal cost and price elasticity of supply relate to the producer, not the consumer.

Question 12.7: Price and Quantity in Third Degree Price Discrimination

Which of the following is true regarding price and quantity in third degree price discrimination?

- A. Prices are higher for all consumers than without price discrimination.
- B. Prices are lower for all consumers than without price discrimination.
- C. Total quantity is always higher than without price discrimination.
- D. Total quantity is always lower than without price discrimination.
- E. None of A, B, C, or D is true.

Answer 12.7: E

Prices may be higher or lower for different consumers. Total quantity is usually higher, but sometimes it does not change.

Question 12.8: Requirements for Third Degree Price Discrimination

All but which of the following are requirements for third degree price discrimination?

- A. The producer must have monopoly power.
- B. Consumers are not able to resell goods to each other.
- C. The producer can differentiate consumers by their price elasticity of demand.
- D. The consumers are not aware of the prices in the markets for other consumers.
- E. All of A, B, C, and D are true.

Answer 12.8: D (For statement B: Third degree price discrimination is most common in transportation and admission to movies or cultural events, for which resale is not possible. It is almost never used for sales of durable goods, which can be resold. Consumers know that prices are different for seniors, students, and other consumers.)

Question 12.9: Price Elasticity of Demand for Airline Tickets

Which of the following groups has the highest price elasticity of demand for airline tickets?

- A. Actuaries attending a business meeting sponsored by the Society of Actuaries.
- B. Industry lobbyists meeting a politician in Washington.
- C. A candidate on a speaking tour during a political campaign.
- D. Retired grandmothers visiting their grandchildren.
- E. A wealthy cancer patient traveling to the Mayo Clinic for treatment.

Answer 12.9: D (Retired grandmothers are most likely to base their travel plans on ticket prices.)

Question 12.10: Dead Weight Loss

Which of the following is true regarding the dead weight loss from price discrimination?

- A. First degree price discrimination leads to zero dead weight loss.
- B. Second degree price discrimination leads to zero dead weight loss.
- C. Third degree price discrimination leads to zero dead weight loss.
- D. Price discrimination never leads to zero dead weight loss.
- E. None of A, B, C, or D is true.

Answer 12.10: A (With first degree price discrimination, the monopolist captures all the social gains, but there is no dead weight loss.)

Exercise 12.11:

Discounts to students and senior citizens can often be explained by third-degree price discrimination, since students and seniors often have higher elasticity of demand. Give two reasons why their elasticity of demand may be high.

Solution 12.11:

They have below-average incomes and they have a low value of time, so they are more likely to shop for the lowest price.

Exercise 12.12: Beer at a Fraternity Party

At a fraternity party, the first cup of beer costs \$2.00, the second cup costs \$1.50, and all further cups costs \$1.00. What type of price discrimination is this, and how does it increase producers' surplus?

Solution 12.12:

Second degree price discrimination. Because of diminishing marginal utility of beer, each additional cup of beer is worth less to the party-goer, and her or she is willing to pay less to buy it.

Exercise 12.13: Beer at a Fraternity Party

At a fraternity party, the beer costs \$2.00 a cup for men and \$1.00 a cup for women. If this is price discrimination, what type of price discrimination is it? Do men or women has higher price elasticity of demand for beer? What other explanations might there be for this pricing?

Solution 12.13:

This is third degree price discrimination; women have the higher price elasticity of demand and they are charged the lower price. In truth, many fraternities charge less to women to encourage more women to come; they are not trying to maximize profits from women.

Question 12.14: Second Degree Price Discrimination

Which of the following is the best example of second degree price discrimination?

- A. Colleges use financial aid to charge different prices to different students.
- B. Retail stores advertise "Buy one, get the second at half price."
- C. Movie theaters give seniors a 20% discount on admission.
- D. Natural food stores offer lower prices to customers who purchase a \$20 "frequent customer" discount card.
- E. Restaurants offer lower salad bar prices to customers who buy an entree.

Answer 12.14: B

Statement A is first degree price discrimination.

Statement C is third degree price discrimination.

Statements D and E have other possible justifications.

Question 12.15: Price Discrimination

Furniture stores often set prices higher than the competitive level and allow their sales personnel to offer discounts to customers depending on their perceptions of a customer's willingness to pay. This pricing strategy is an attempt to implement

- A. First degree price discrimination
- B. Second degree price discrimination
- C. Third degree price discrimination
- D. A two-part tariff
- E. Cartel pricing

Answer 12.15: A

First degree price discrimination is charging the consumer the maximum that he or she is willing to pay for the goods. A sales person who charges each consumer the maximum that he or she will pay is practicing first degree price discrimination.

Question 12.16: Third Degree Price Discrimination

A monopolist using third degree price discrimination charges the highest price to the group

- A. With the most elastic demand.
- B. With the least elastic demand.
- C. With the highest demand.
- D. With the lowest demand.
- E. With the least negotiating power.

Answer 12.16: B

Marginal revenue = marginal cost =  $P \times (1 - 1/|\eta|)$ . Since the marginal cost is the same for all markets, the marginal revenue is the same for all markets. The market with the most elastic demand has the highest value of  $(1 - 1/|\eta|)$ , so it has the lowest value of  $P$ .

Question 12.17: Third Degree Price Discrimination

Which of the following is *not* a good example of third degree price discrimination?

- A. Lower prices for customers who use manufacturers' coupons.
- B. Discounts for seniors buying prescription drugs.
- C. Lower airline prices for travelers who stay over a Saturday night.
- D. Lower salad bar prices for customers who order an entree.
- E. Lower magazine subscription prices for college students.

Answer 12.17: D

Customers who order an entree generally eat less from the salad bar, so the lower price reflects the cost, not the elasticity of this market.

*Question:* How do we know this reflects the cost, not the price elasticity of demand for consumers who order an entree?

*Answer:* Consumers who order entrees are wealthier and have a lower price elasticity of demand; were this third degree price discrimination, they would pay more at the salad bar.

Question 12.18: Pricing Strategies and Social Gain

Which of the following pricing strategies might not increase social gain when implemented by a profit-maximizing monopolist?

- A. First degree price discrimination
- B. Second degree price discrimination
- C. Third degree price discrimination
- D. A two-part tariff
- E. Expense reductions lowering marginal cost

Answer 12.18: C

Third degree price discrimination may either increase or decrease the quantity produced, thereby increasing or decreasing social gain.