10.1 Price Elasticity of Demand

1. When the price of a good increases from \$10 to \$12, its quantity demanded decreases from 20 units to 18 units. Calculate the arc elasticity of demand (E_d) and indicate the type of price elasticity of demand for the good.

$$E_d = \frac{\frac{18-20}{(20+18)/2} \times 100\%}{\frac{12-10}{(10+12)/2} \times 100\%} = 0.58$$

The demand for the good is *(elastic / inelastic)*.

2. When the price of a good decreases by 5%, its quantity demanded increases by 8%. The demand for the good is *(elastic / inelastic)*.

3. When the supply of a good decreases, the percentage increase in the price of the good is greater than the percentage decrease in the quantity transacted. The *(demand for / supply of)* the good is *(elastic / inelastic)*.

4. When the price of a good deceases, its quantity demanded remains unchanged. The price elasticity of demand coefficient for the good is *(0 /1)*.

5. The demand curve for a good is a horizontal line. The demand for the good is *(perfectly inelastic / perfectly elastic)*.

10.2 Factors Affecting Price Elasticity of Demand

6. If people are addicted to a good, the demand for the good tends to be *(more / less)* elastic.

7. The demand for durable goods tends to be *(more / less)* elastic.

8. Which of the following will raise the elasticity of demand for private cars?

☐ The price of private cars decreases.

☑ The public transport network improves.

☑ The average lifespan of private cars increases.

10.3 Relationship between Price Elasticity of Demand and Total Revenue

9. When the price of a good increases, the total revenue of producers remains unchanged. The demand for the good is *(perfectly inelastic / unitarily elastic)*.

10. If the demand for a good is inelastic, sellers' total revenue will *(increase / decrease)* when the price decreases.

11. Suppose the demand for a good is elastic. When the price increases, the percentage increase in price will be *(greater / smaller)* than the percentage decrease in quantity demanded. Consumers' total expenditure will *(increase / decrease)*.

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12. The table below shows the relationship between the unit price and the quantity transacted of good X.

Unit price ($)	20	22	24
Quantity transacted (units)	100	90	80

(a) When the price of good X increases, the sellers' total revenue *(increases / decreases / remains unchanged)*.
(b) Within the above price range, the demand for good X is *(inelastic / elastic / unitarily elastic)*.

13. Suppose the demand for good X is inelastic. How will an increase in price affect the total expenditure of consumers? Explain with the aid of a diagram.

When the price increases, the percentage increase in price will be *(greater / smaller)* than the percentage decrease in quantity demanded. Total expenditure of the consumers will *(increase / decrease)*.

10.4 Price Elasticity of Supply

14. When the price of a good increases from $5 to $7, its quantity supplied increases from 10 units to 20 units. Calculate the arc elasticity of supply (E_s) and indicate the type of price elasticity of supply of the good.

$$E_s = \frac{\frac{20-10}{(10+20)/2} \times 100\%}{\frac{7-5}{(5+7)/2} \times 100\%} = 2$$

The supply of the good is *(elastic / inelastic)*.

15. When the demand for a good decreases, its price and quantity transacted changes by 10% and 6% respectively. The *(demand for / supply of)* the good is *(elastic / inelastic)*.
16. The supply curve of a good is a vertical line. The supply of the good is *(perfectly inelastic / perfectly elastic)*.

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17. The diagram below shows the supply curve of a good. The supply of the good is *(inelastic / elastic / unitarily elastic)*.

10.5 Factors Affecting Price Elasticity of Supply

18. When the producers of a good have spare production capacity, the supply of the good tends to be *(more / less)* elastic.

19. Compared with waiters, the supply of lawyers tends to be *(more / less)* elastic.

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