



ECONOMICS

BOOKS - RADHA BHUGANA

ECONOMICS (HINGLISH)

ELASTICITY OF DEMAND

Example

1. If price of a commodity rises by 40% and accordingly its demand falls by 80% what is

P_{e_D}



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2. If price of a commodity rises from $\hat{a},^1 8$ to $\hat{a},^1 10$ per unit and its demand falls by 50% what is e_D ?



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3. Due to 10% fall in price of X, its demand rises from 100 units to 120 units. How much

percent will its demand fall due to 10% in its price ?



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4. A consumer spends $\hat{a},^1 100$ on a good priced at $\hat{a},^1 4$ per units. When its price falls by 50% , the consumer continues to spend $\hat{a},^1 100$ on the good. Calculate $P. e_D$ by percentage method.



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5. A consumer buys 10 unit of a commodity at $\hat{a},^1 5$ per unit. He buys 12 units, when price falls to $\hat{a},^1 4$ per units calculate $P. e_D$.



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6. Price of a good rises from $\hat{a},^1 10$ to $\hat{a},^1 12$ and its demand falls from 120 units to 100 units. Calculate price elasticity of demand.



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7. A consumer spends $\hat{a},^{1}1000$ on a good priced at $\hat{a},^{1} 10$ per unit. When its price falls by 20 percent the consumer spends $\hat{a},^{1} 800$ on the good. Calculate price elasticity of demand by the percentage method.



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8. A consumer buys 80 units of a good at a price of $\hat{a},^{1} 4$ per unit. Due to fall in its in its price , he buys 100 units of the good. If price elasticity of demand is (-) 1 find the new price.



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9. A consumer buys 30 units of a good at a price of \hat{p}^1 10 per unit. Price elasticity of demand for the good is (-) 1. How many units the consumer will buy at a price of \hat{p}^1 9 per unit? Calculate.



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10. Given that $P. e_D = (-)5$ a consumer buys 10 kg at 5 per kg. find the new price if

now he buys 20kg



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11. What will be the effect of 10% rise in price of a food in its demand if price elasticity of demand is (a) zero, (b) -1 , -2 ?



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12. A Consumer buys 100 units at $\hat{a},^1 5$ per unit $P. e_{Dis}2$. At what price will the consumer buy

140 units of the commodity ?



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13. The demand for a good is 300 units at $\hat{a},^1$ 20 if price rises by $\hat{a},^1_2$ and demand falls, find the new demand, if e_D is 2.



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14. The demand for a good is 300 units at $\hat{a},^1$ 10 per units. Price falls by $\hat{a},^1_5$ if price elasticity

of demand is . Calculate demand after price fall.



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15. Comment upon the degree of elasticity of demand for Good X, in the following given situation, if the price of the commodity rises from $\hat{a},^{15}$ per unit to $\hat{a},^1 7$ per unit and the quantity demand falls from 20 units to 16 units using proportionate method.



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16. (a) Arrange the following coefficients of price elasticity of demand in ascending order:

- 0.87, 0.53, -3.1, -0.80 ,

(b) Comment upon the degree of elasticity of demand for commodity X, if the price of the commodity falls from $\hat{a},^1$ 28 per unit to $\hat{a},^1$ 23 per unit and its quantity demanded rises from 50 units to 100 units.



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17. When price of a commodity X falls by 10%, its demand rises from 150 units to 180 units. Calculate its price elasticity of demand. How much should be the percentage fall in its price so that its demand rises from 150 to 210 units.



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18. At a price of \hat{a}^1 20 per unit, the qty. dd of a commodity is 300 units. If its price falls by 10% quantity rises by 60 units. Find $P. e_D$.





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19. A 5% in price of x causes 10 % rise in demand for x. A 20% rise in price of y leads to 5% fall in demand for y. calculate $P. e_D$ for x and y. which is more elastic ?



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20. $P. e_D = (-)0.2$ if price increases by 8% , by what percent will the demand for the good go down.



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21. 600 units of a good are demanded at $\hat{P} = 18$ per units. Its price falls by 25% and quantity demanded rises by 120 units. Calculate $P. e_D$.
Is its demand elastic?



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22. The $P. e_D$ for a good x is twice that of good y. Price of x falls by 5% and of y rises

by 5% and of y rises by 5% . Find out % change in quantities demanded of x and y .



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23. The demand of goods x and y have equal price elasticity. The demand of x rises from from 100 units to 200 units due to 20 % fall in its price. Calculate % rise in demand of y , if its price falls by 8%.



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24. Calculate co- efficient of $P. e_D$ if a person spends $\hat{a},^1 500$ at $\hat{a},^1 5$ pe units and $\hat{a},^1 420$ at $\hat{a},^1 6$ per units.



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25. A dentist was charging $\hat{a},^1 300$ for a standard cleaning job which generated her a revenue of $\hat{a},^1 30,000$ per month. She increased the price to $\hat{a},^1 350$ which earned her $\hat{a},^1 33,250$ per month. Find elasticity of demand.



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26. $P. e_D$ of two goods A and B is (-) 3 and (-) 4 respectively. Which of the goods has higher elasticity and why?



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27. A consumer buys 50 units of a good at a price of $\hat{a},^{10}$ per unit. When price falls to $\hat{a},^{15}$ per unit he buys 100 units. Find out $P. e_D$ by total expenditure method.



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28. The price of cauliflower goes up by 8% and total expenditure on cauliflower goes up by 8% what is $P. e_D$?



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29. Demand for a product is elastic. Its price falls. What will be its effect on total expenditure ? Give example.





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30. When price of a good rises from $\hat{a},^{15}$ to $\hat{a},^{16}$ per unit, its demand falls from 20 units to 10 units. Compare the expenditure on the good to determine whether demand is elastic or inelastic



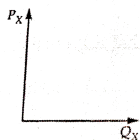
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[Lets Us Recapitulate](#)

1. Draw the following schedules and mention the co-efficient of price elasticity of demand

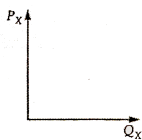
1.

P_x (₹)	Q_x (units)
100	5
100	15



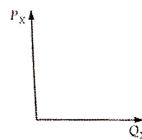
2.

P_x (₹)	Q_x (units)
10	5
20	5



3.

P_x (₹)	Q_x (units)
100	50
50	90



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2. State with reasons, whether the following items will have elastic or inelastic demand.

(a) Match box (b) Pepsi (c) Medicines (d)

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â, eleticity (f) Liquor (g) Butter for a poor person

(h) salt (i) Particular brand of lipstick (i) Mobile phone



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Mcq

1. price elasticity of demand measure percentage change in quantity demanded of a good due to precentage change in

A. price of complementary goods

B. price of the good

C. income of a consumer

D. tastes of a consumer.

Answer: B



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2. The good which has inelastic demand is

A. salt

B. medicines

C. textbooks

D. all of these.

Answer: D



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3. Arrange the following coefficients of $P. e_D$

in ascending order (-)0.7, (-) 0.3, (-) 1.1, (-)0.8

A. (-) 0.3, (-) 0.7, (-) 0.8, (-)1.1

B. (-)11(-)0.8, (-) (0.7), (-) 0.3

C. (-) 0.7, (-) 0.8, (-) 0.3, (-)1.1

D. none of these

Answer: A



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4. The factors affecting $P. e_D$ are

A. nature of the commodity

B. time period

C. availability of close substitutes

D. all of these.

Answer: D



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5. Perfectly elasticity demand is represented by a curve which is

A. prallel to Y-axis

B. rectangular hyoperbola

C. parallel to X -axis

D. Straight line downward sloping.

Answer: C



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6. Price of a good 'X' rises from $\hat{a},^{1} 20$ per unit to $\hat{a},^{1} 40$ per unit. The consumer buys the same quantity, he bought at $\hat{a},^{1}20$ per unit. What would be price elasticity of demand.

A. infinity

B. zero

C. one

D. less than one.

Answer: A



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7. Identify the good whose demand would not respond to rise in its price.

A. textbooks

B. salt

C. life saving drugs

D. all of these.

Answer: D



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8. When price of a good falls from $\hat{a},^{1} 15$ per unit to $\hat{a},^{1} 12$ per unit, its demand rises by 25% , calculate $P. e_D$

A. 0.8

B. 0.33

C. 1.25

D. none of these

Answer: A



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9. Identify elastic dd if $P. e_D$ is

A. (-)0.2

B. (-) 1.4

C. (-) 1.0

D. all of these.

Answer: B



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10. What will be $P. e_D$ on any two points of a demand curve which is parallel to X axis ?

A. zero

B. unequal

C. equal

D. higher on the point to the right.

Answer: C



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11. *P. $e_D = (-)1$* , what will be percentage change in price that will raise the demand from 20 units to 30 units.

A. (-) 50%

B. + 50 %

C. + 33.3 %

D. (-) 33.3%

Answer: A



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12. $P. e_D$ of good X is (-) 2 and of good Y is (-)3.

which of the two goods is more price elastic ?

A. X

B. Y

C. both a and b

D. Neither a nor b

Answer: A



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Objective Type Questions

1. Give one point of difference between law of demand and elasticity of demand.



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2. When demand curve is parallel to Y axis, what will be its price elasticity.



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3. Why is demand for water and salt inelastic ?



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4. what is the shape of demand curve under

(a) Perfectly elastic demand

(b) perfectly inelastic demand

(c) Unitary elastic demand

(d) Greater than unitary elastic demand

Less than unitary elastic demand ?





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Conceptual Questions

1. Define price elasticity of demand .



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2. Give formula to measure $P. e_D$ by

Percentage method



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3. Slope of demand curve will be infinity when degree of price elasticity of demand is infinity.

Defend or Refute.



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4. Name any four factors affecting $P. e_D$



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Higher Order Thinking Skills

1. A family spending has to increase, when the price increases, Defend or refute.



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2. If there are two demand curve intersecting each other, which demand curve has greater elasticity of demand ? Explain.



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3. what is price elasticity of demand on the following demand curves:

(i) Straight line parallel to X-axis (ii) straight line parallel to Y-axis.



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4. Are slopes of a demand curve and elasticity curve and elasticity of a demand curve the same thing ?



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5. What is the importance of elasticity of demand .



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Value Based Questions

1. Government introduces a new tax on production of cigarettes causing hike prices. What impact it will have on different sets of

consumers ? What is the rationale behind imposition of tax by the government ?



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2. Subsidies on medicines have been withdrawn, thus making them costlier. How will it affect market demand ? Is demand for cigarettes.



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3. Why does the government own and run some services like post and telegraph, water supply, public transport etc. while they can be easily run and managed by the private sector ?



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Ncert Questions

1. Explain the price elasticity of demand.



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2. Consider the demand for good. At price $\hat{p}_1 = 4$, the demand for the good is 25 units. Suppose price of the good increases to $\hat{p}_2 = 5$, the demand falls to 20 units. Calculate price elasticity.



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3. Suppose price elasticity of demand for a good is -0.2. If there is 5% increase in price of

the good, by what percentage will the demand for the good go down ?



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4. Suppose price elasticity of demand for a good is -0.2 . How will the expenditure on good be affected if there is 10% increase in price of the good ?



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5. Suppose there was a 4% decrease in price of a good and the expenditure on good increased by 2% . What can you say about elasticity of demand ?



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Very Short Answer

1. Define price elasticity of demand.



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2. What is the shape of perfectly inelastic demand curve ?



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3. What is the shape of perfectly elastic demand curve ?



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4. What is the shape of unitary elastic demand curve ?



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5. When is demand for a commodity called elastic?



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6. When is demand for a commodity said to be inelastic ?



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7. If two demand curves intersect, which one has the higher price elasticity ?



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8. if $P. e_D = 1$ what will be the nature of its demand curve ?



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9. when is the demand for a good said to be perfectly inelastic ?



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Short Answer Type Questions

1. Explain price elasticity of demand.



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2. what is meant by price elasticity fo demand
? Explain any two factors that affect it.



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3. How is price elasticty of demand of a
commodity affected by the number of its

substitutes ?



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4. Mention any three factors that affect the price elasticity of demand for commodity.



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5. How does the nature of a commodity influence its price elasticity of demand.



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6. Explain the significance of " minus sign" attached to the measure of price elasticity of demand in case of a normal good as compared to the " plus sign" attached to the measure of price elasticity of supply.



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7. How is price elasticity of demand affected by:
(i) Number of substitutes available for the good

(ii) Nature of the good ?



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8. When price of a commodity fall by $\hat{a},^1$ per unit, its quantity demanded rises by 3 units. If $P. e_D = (-)^2$ calculate its qty. demanded if qty. demanded if price before change was $\hat{a},^1$ 10 per unit.



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9. Quantity demanded of a commodity rises by 6 units when its price falls by ₹1 per unit its price elasticity of demand is (-)1. if the price before change was ₹20 per unit, calculate quantity demanded at this price.



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10. from the following data, calculate price elasticity of demand.

Price (₹)	9	9
Demand (Units)	100	150



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11. when price of a good is $\hat{a},^1$ 12 per unit, the consumer buys 24 units of the good. When price rises to $\hat{a},^1$ 14 per unit the consumer buys 20 units. Calculate price elasticity of demand.



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12. When price of a good is $\hat{a},^1$ 13 per unit, the consumer buys 11 units of the good. When

price rises to $\hat{a},^1$ 15 per units, the consumer continues to buy 11 units. Calculate price elasticity fo demand.



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13. Calculate the $P. e_D$ for a commodity when its price increases by 25% and quantity demanded falls from 150 units to 120 units.



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14. A 5% fall in the price of a good raises its demand from 300 units to 318 units. Calculate

$P. e_D$



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15. The demand for good rises by 20% as a result of fall in its price. Its $P. e_{Dis}(-)0.8$.

Calculate the percentage fall in price.



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16. A consumer buys 18 units of a good at a price of $\hat{a},^1 9$ per unit. The price elasticity of demand for the good is (-)1. How many units the consumer will buy at a price of $\hat{a},^1 10$ per units ? Calculate



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17. $P. e_D$ of a good is (-)1. when its price falls by one rupee, its demand rises from 16 units to 18 units. Calculate the price before change.



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18. When price of a good falls from $\hat{a},^1$ 15 per unit to $\hat{a},^1$ 12 per unit, its demand rises by 25% , calculate $P. e_D$



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19. $P. e_D$ of a good is (-)1. Calculate the % change in price that will raise the demand from 20 units to 20 units.



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20. A consumer spends $\hat{a},^{1}100$ on a good priced at $\hat{a},^{1}4$ per unit. When its price falls by 25%, the consumer spends $\hat{a},^{1}75$ on the good. Calculate $P. e_D$ by percentage method.



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21. A consumer spends $\hat{a},^{1}400$ on a good priced at $\hat{a},^{1}8$ per unit. When its price rises by 25%, the consumer spends $\hat{a},^{1}500$ on the good. Calculate $p. e_D$ by percentage method.



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Long Answer Type Questions

1. Explain any 2 factors that affect price elasticity of demand. Give suitable examples.



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2. $P. e_D$ for a good is (-) 0.4. if its price increases by 5% by what percentage will its

demand fall ?



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Unsolved Numericals

1. If price of a good rises from $\hat{a},^1 46$ to $\hat{a},^1 50$ per unit, the demand decreases from 30 units to 15 units. Calculate co-efficient of price elasticity of demand.



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2. A person buys 10 units of a good at $\hat{a},^16$ per unit. When the price falls to $\hat{a},^15$ per unit he buys 14 units.

Calculate degree of price elasticity of demand .



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3. At $\hat{a},^18$ per unit a consumer buys 160 units of a good. How much quantity will he buy at $\hat{a},^16$ per unit, given that $P. e_D = (-)2?$



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4. Given that price elasticity of demand is 1, a consumer buys 40 units at $\hat{a},^1$ per unit. At what price will he buy 36 units ?

(we use -ve sign in the formula as absolute value of $P. e_D$ is given).



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5. Suppose that initial demand 100 units. With rise in price by $\hat{a},^15$, the quantity demanded decreases by 5 units . Elasticity of demand is

1.2 find out initial price.

(Hint. Use negative sign in the formula)



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6. A consumer buys 50 units of a good at $\hat{a},^{14}$ per unit. When its price falls by 25% ,its demand rises to 100 units. Find out price elasticity of demand.



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7. Elasticity of demand is $(-)$ 3. If price rises from $\hat{a},^{12}$ per units, what is the % change in demand?



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8. At a price of $\hat{a},^{15}$ per unit a consumer buys 500 units. Its price falls by 20% and demand rises by 80 units. Calculate $P. e_D$



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9. The price elasticity of demand of good x is half the price elasticity of demand of good y. A 25% rise in price of good y reduces its demand from 400 to 300 units. Percentage change in demand of good x when its price falls from $\hat{a},^{10}$ to $\hat{a},^8$ per units.



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10. A consumer buys 80 units of a good at a price of $\hat{a},^{14}$ per unit. When price falls he buys 100 units. If $P. e_D$ is (-) 1, find out new price.



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11. A consumer buys 100 units of a good at $\hat{a},^{15}$ per unit. The $P. e_D$ is (-) 2 . At what price will he buy 180 units of the commodity ?



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12. Demand of a commodity by a consumer falls by 10% as its price rises from $\hat{a},^1$ 10 per

unit to $\hat{a},^{12}$ per unit. What is price elasticity of demand?



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13. As a result of 10% fall in price of a good, its demand rises from 100 units to 140 units.

What is $P. e_D$?



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14. The quantity demanded of a commodity falls by 5 units when price rises by $\hat{a},^11$ per unit. Its $P. e_D$ is $(-)$ 1.5. Calculate the price before change if at this price Quantity demanded was 60 units.



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15. When price of good rises from $\hat{a},^110$ to $\hat{a},^112$ per unit its quantity demanded falls by 20%. Calculate its price elasticity of demand. How

much would be the percentage change in its quantity demanded, if the price rises from $\hat{a},^{10}$ per units to $\hat{a},^{13}$ per units ?



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16. When price of a commodity A falls from $\hat{a},^{10}$ to $\hat{a},^{15}$ per units, its quantity demanded doubles. Calculate its elasticity of demand : At what price will its quantity demanded fall by 50%.



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17. The price elasticity of demand of good x is half the price elasticity of demand of good y. A 25% rise in price of good y reduces its demand from 400 to 300 units. Percentage change in demand of good x when its price falls from $\hat{a},^{10}$ to $\hat{a},^{18}$ per units.



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100 units. If $P. e_D$ is (-) 1, find out new price.



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unit to $\hat{a},^{12}$ per unit. What is price elasticity of demand?



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24. When price of a commodity A falls from $\hat{a},^{10}$ to $\hat{a},^{15}$ per units, its quantity demanded doubles. Calculate its elasticity of demand : At what price will its quantity demanded fall by 50%.



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