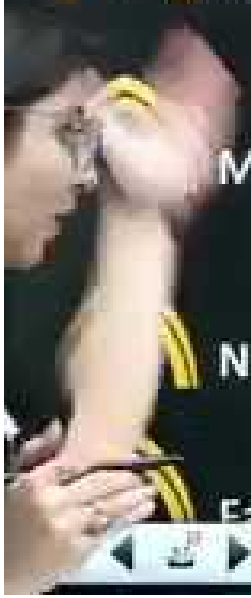
TODAY'S TARGETS

1. Price Elasticity of Demand
2. Degree of Elasticity of Demand
3. Method of Calculating Elasticity of Demand
4. Numericals , Flatter the curve Greater the Elasticity
5. Factors affecting Elasticity of demand , MCQ's



Price Elasticity of Demand:

It refers to percentage change in quantity demanded in response to percentage change in price of the commodity:

Degree of Elasticity of Demand

1. Perfectly Inelasticity of Demand (Ed = 0)
2. Less Elasticity of Demand (Ed < 1)
3. Unitary Elasticity of Demand (Ed = 1)
4. Highly Elasticity of Demand (Ed > 1)
5. Perfectly Elasticity of Demand (Ed = ∞)

I. Perfectly Inelasticity of Demand (Ed = 0)

Perfectly Inelasticity of demand

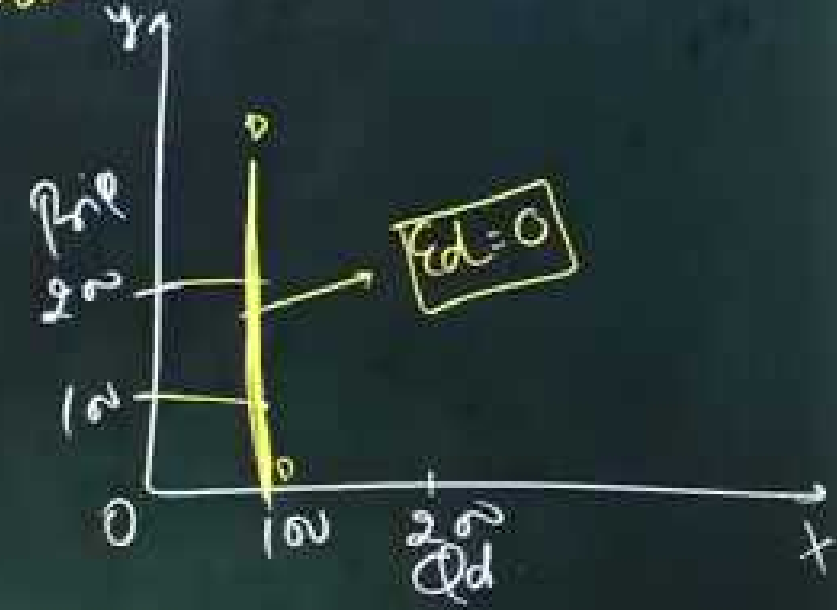
No change in demand

I. Perfectly Inelasticity of Demand (Ed = 0)

Perfectly Inelasticity of demand

No change in demand

P_x	Qd_x
100	100
200	100



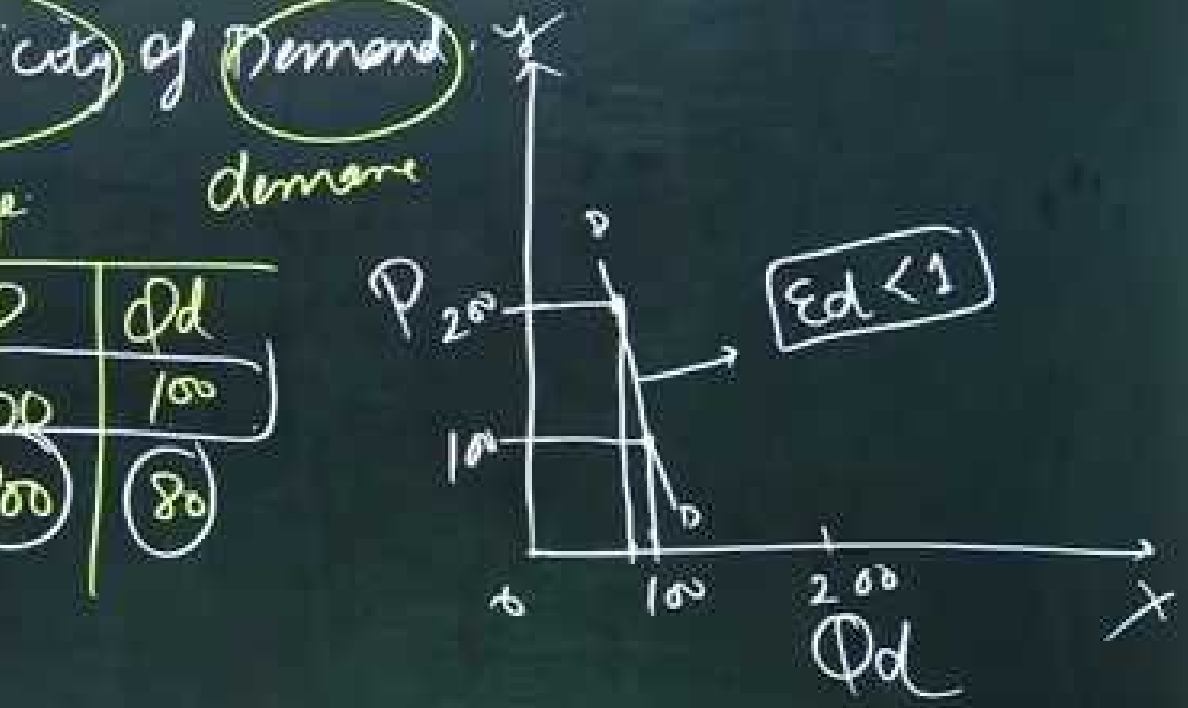
II. Less Elasticity of Demand (Ed < 1)

Less Elasticity of Demand

change demand

$E_d < 1$

P	Q_d
100	100
200	80



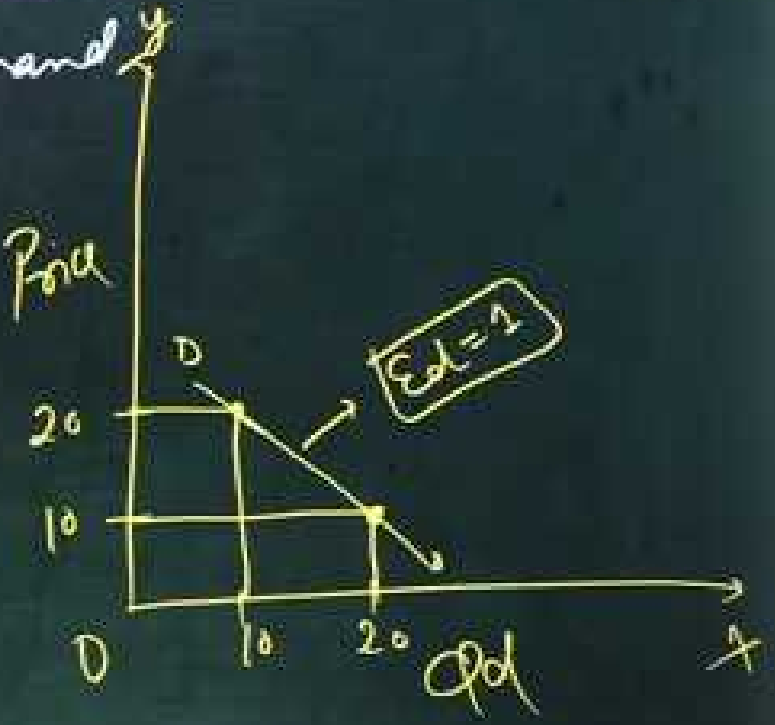
III. Unitary Elasticity of Demand (Ed = 1)

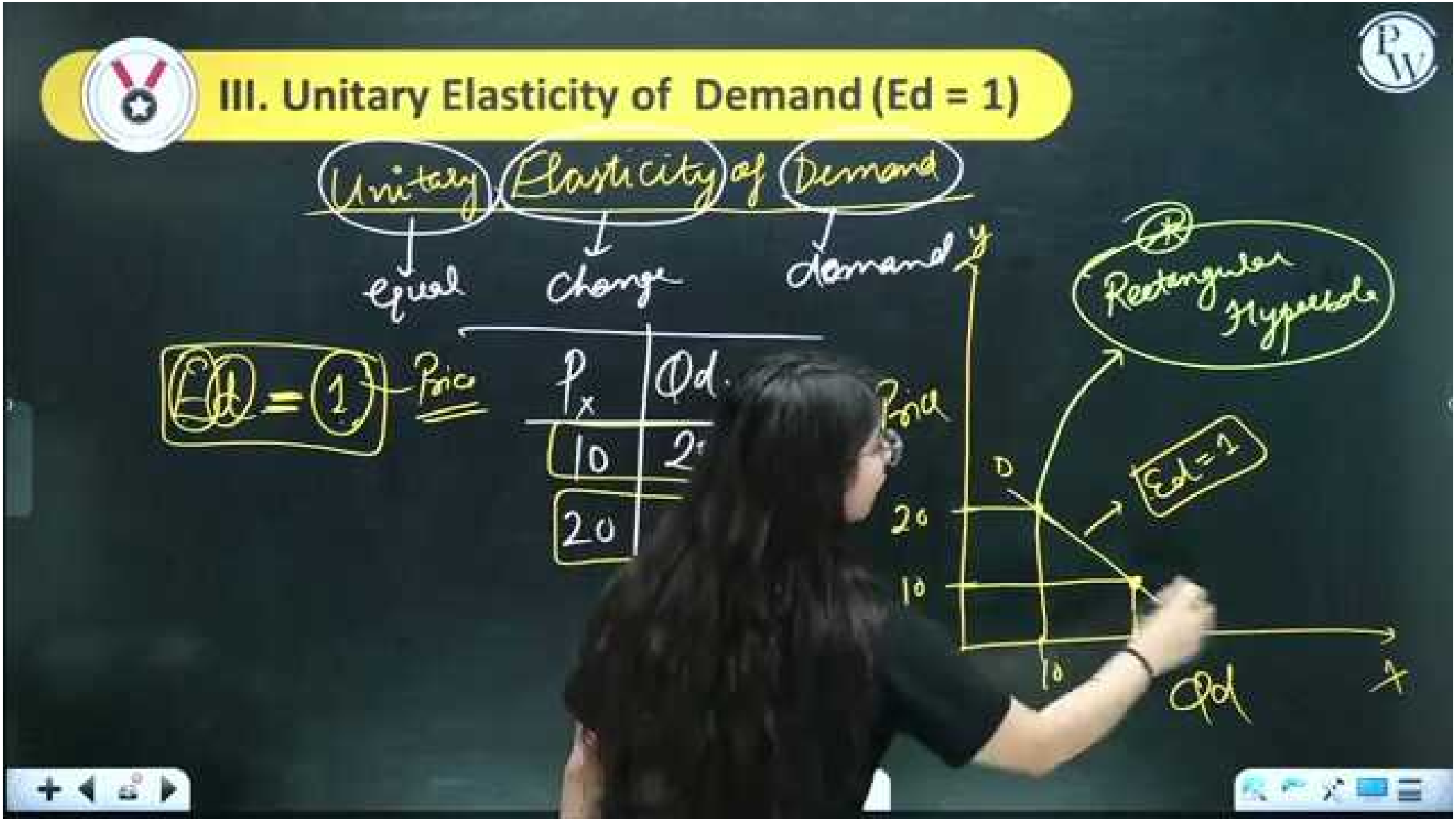
Unitary Elasticity of Demand

equal change demand

$E_d = 1$ → Price

P_x	Qd_x
10	20
20	10




III. Unitary Elasticity of Demand (Ed = 1)
Unitary Elasticity of Demand
Equal
Change
Demand
Ed = 1
Price
Px
Qd.
10
20
20
Price
Rectangular Hyperbola
D
Ed=1
20
10
10
Qd
X

IV. Highly Elasticity of Demand (Ed > 1)

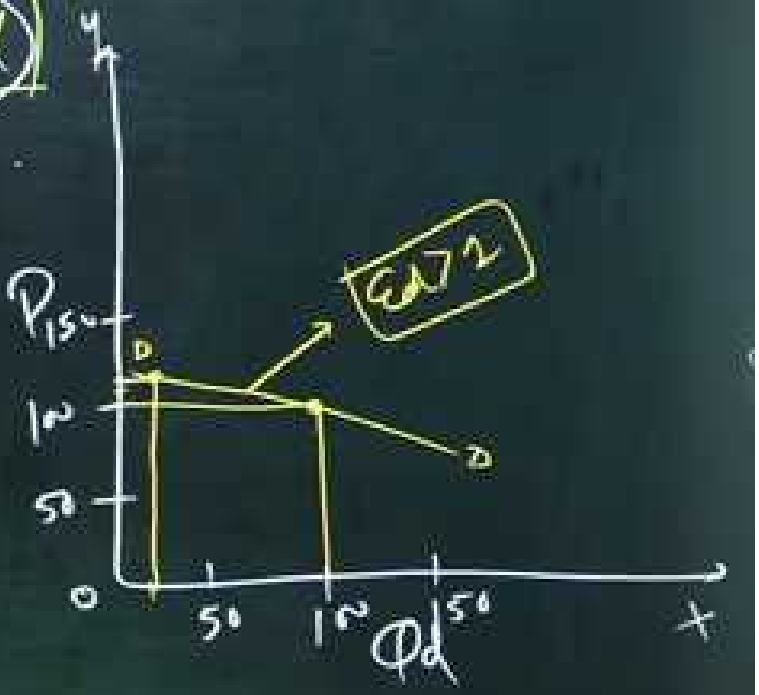
Highly Elasticity of Demand

ज्यादा change demand

Ed > 1

Price

P	Qd
100	100
110	20



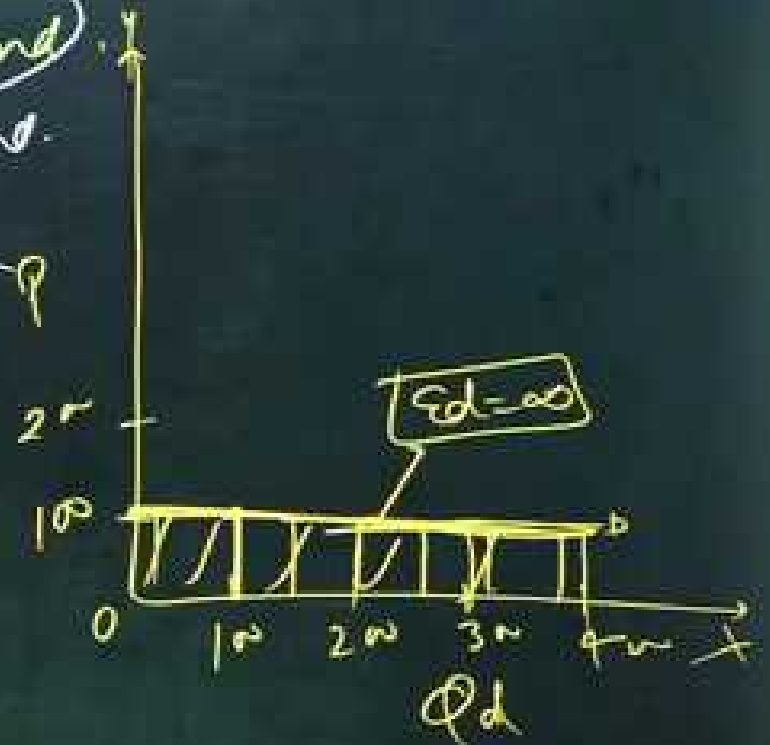
V. Perfectly Elasticity of Demand (Ed = ∞)

Perfectly Elasticity of Demand.

change demand.

$(Ed) = \infty$

P	Qd
100	100
100	200
100	300
100	400




Percentage Method
Ed = (-) % age change in Qd / % age change in Price
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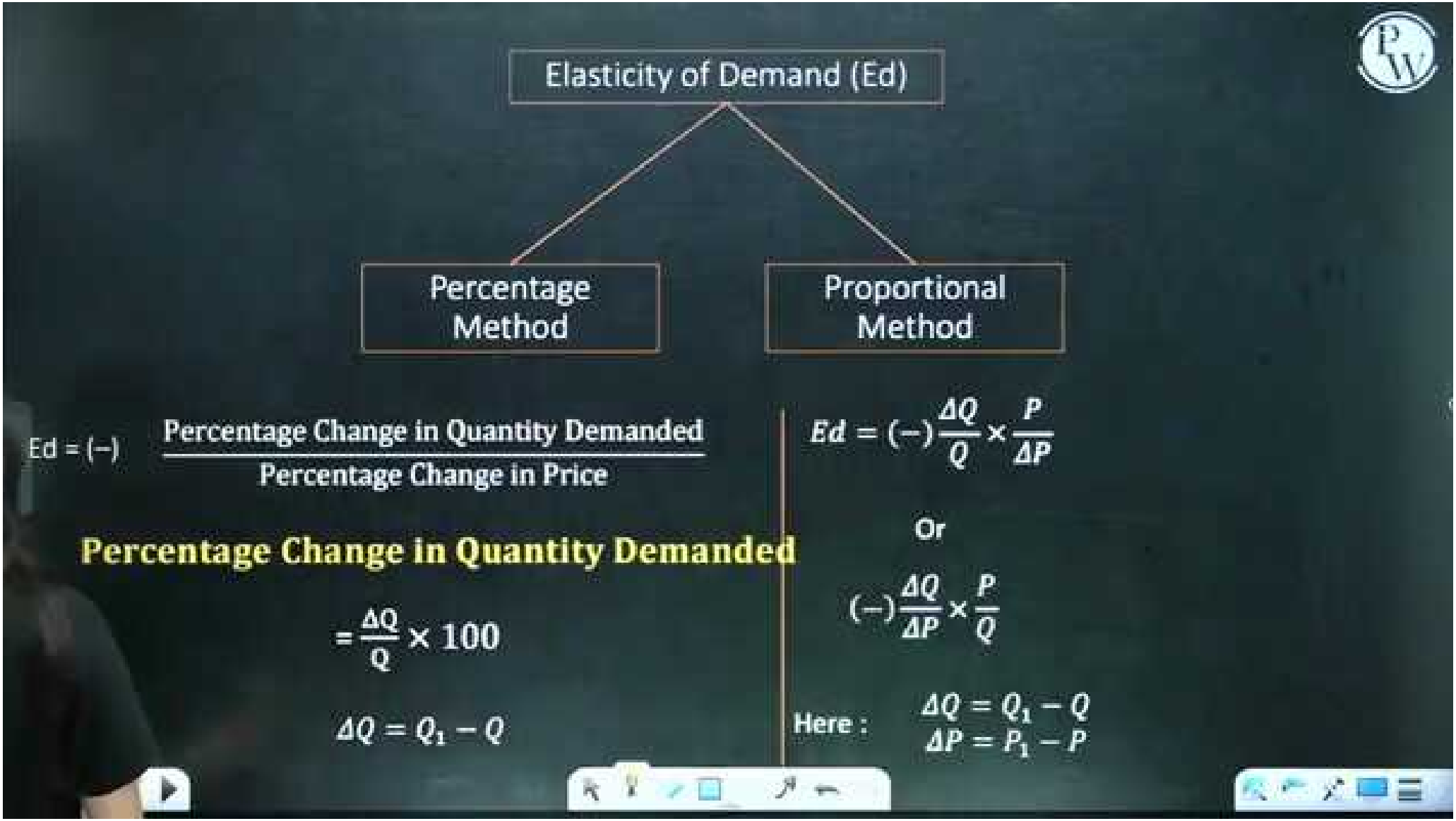
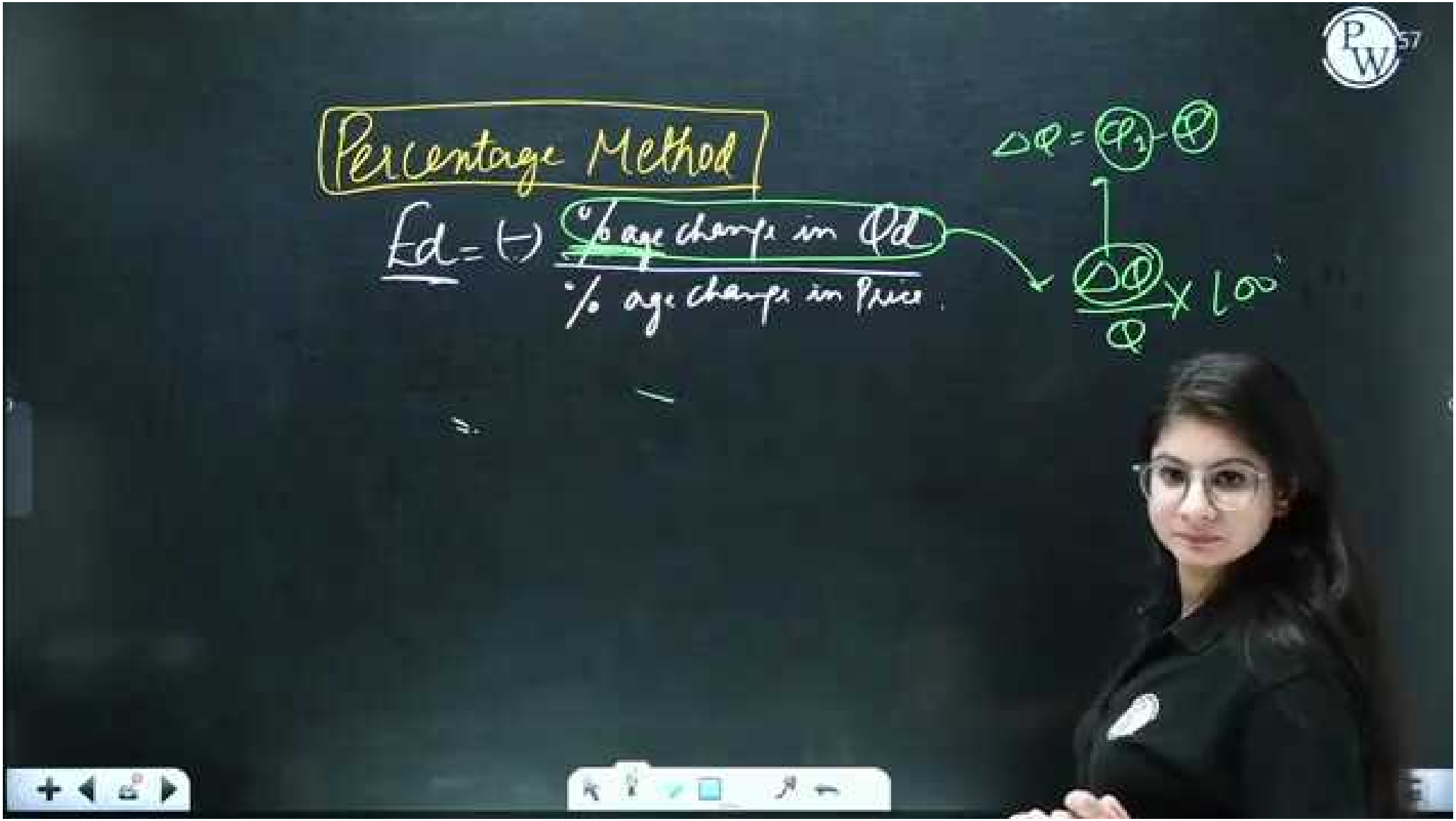
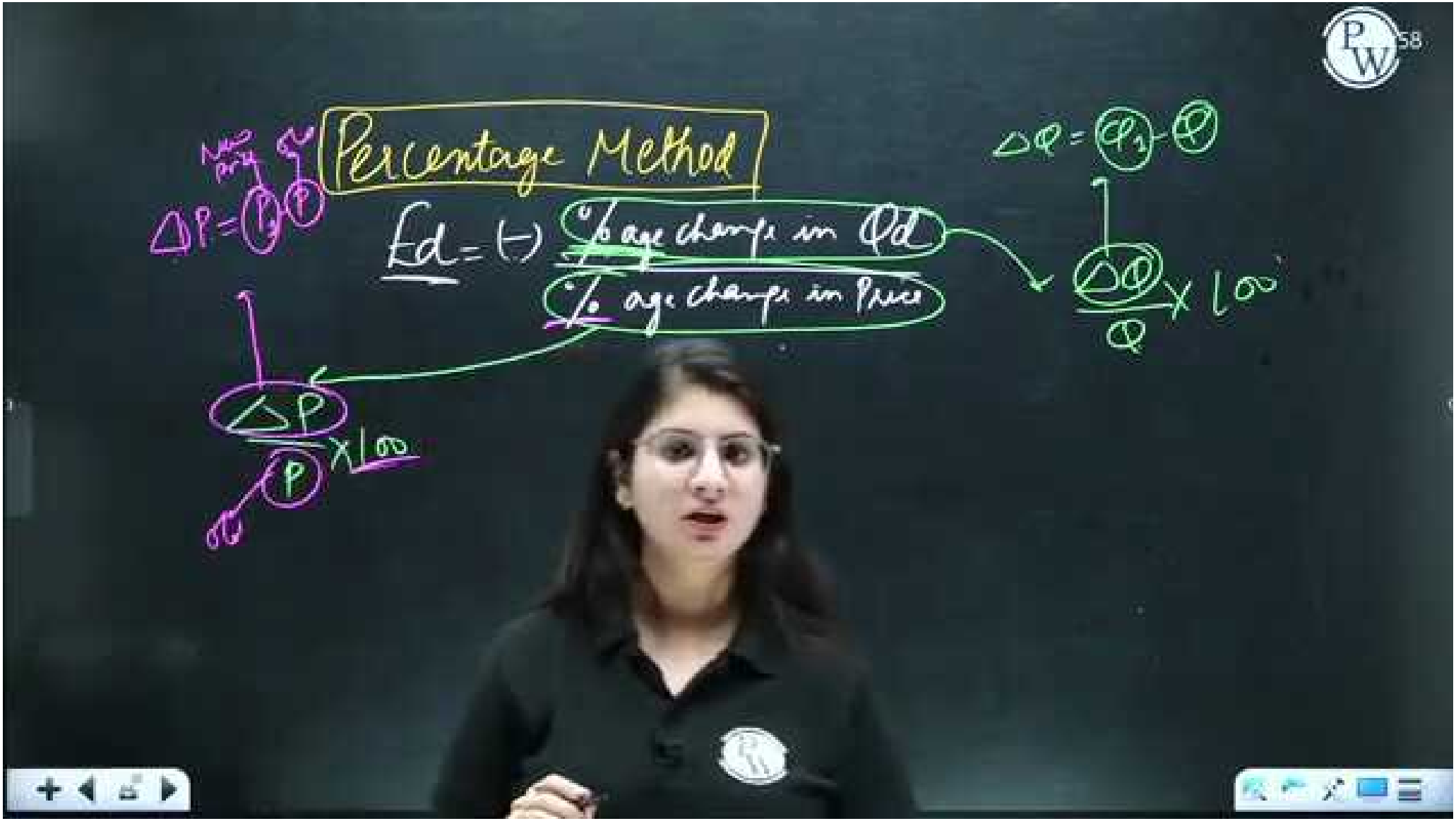
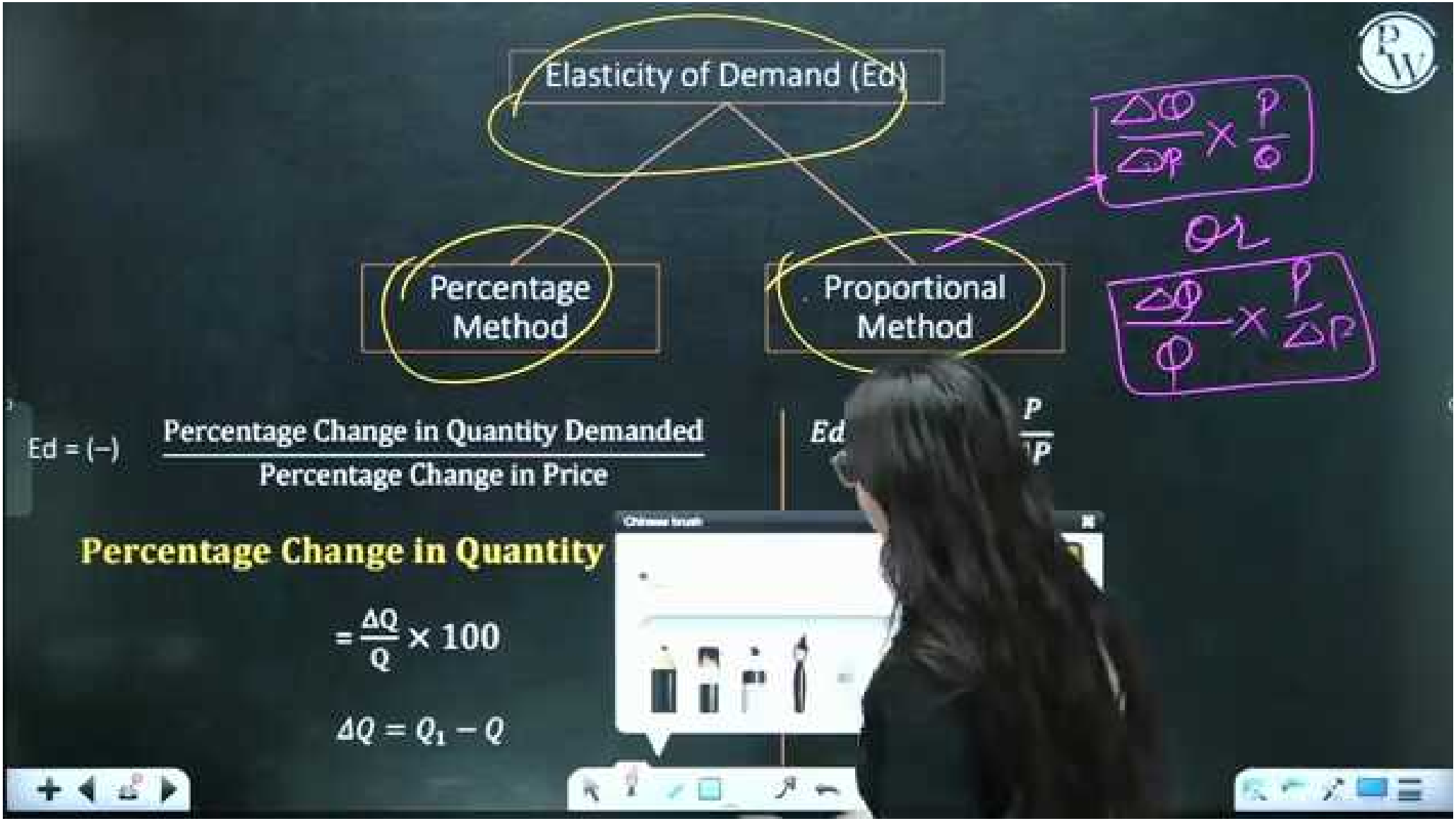
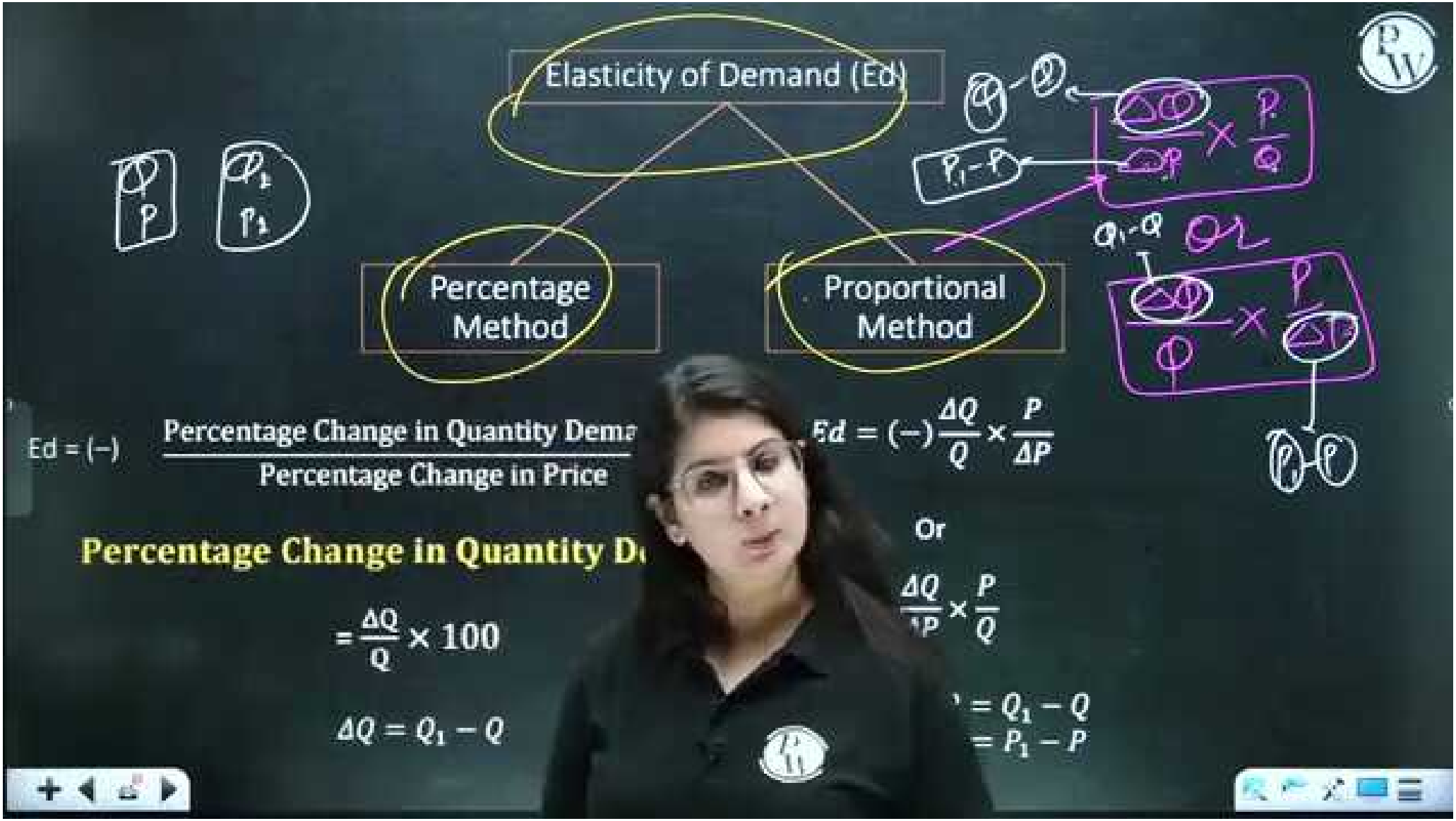
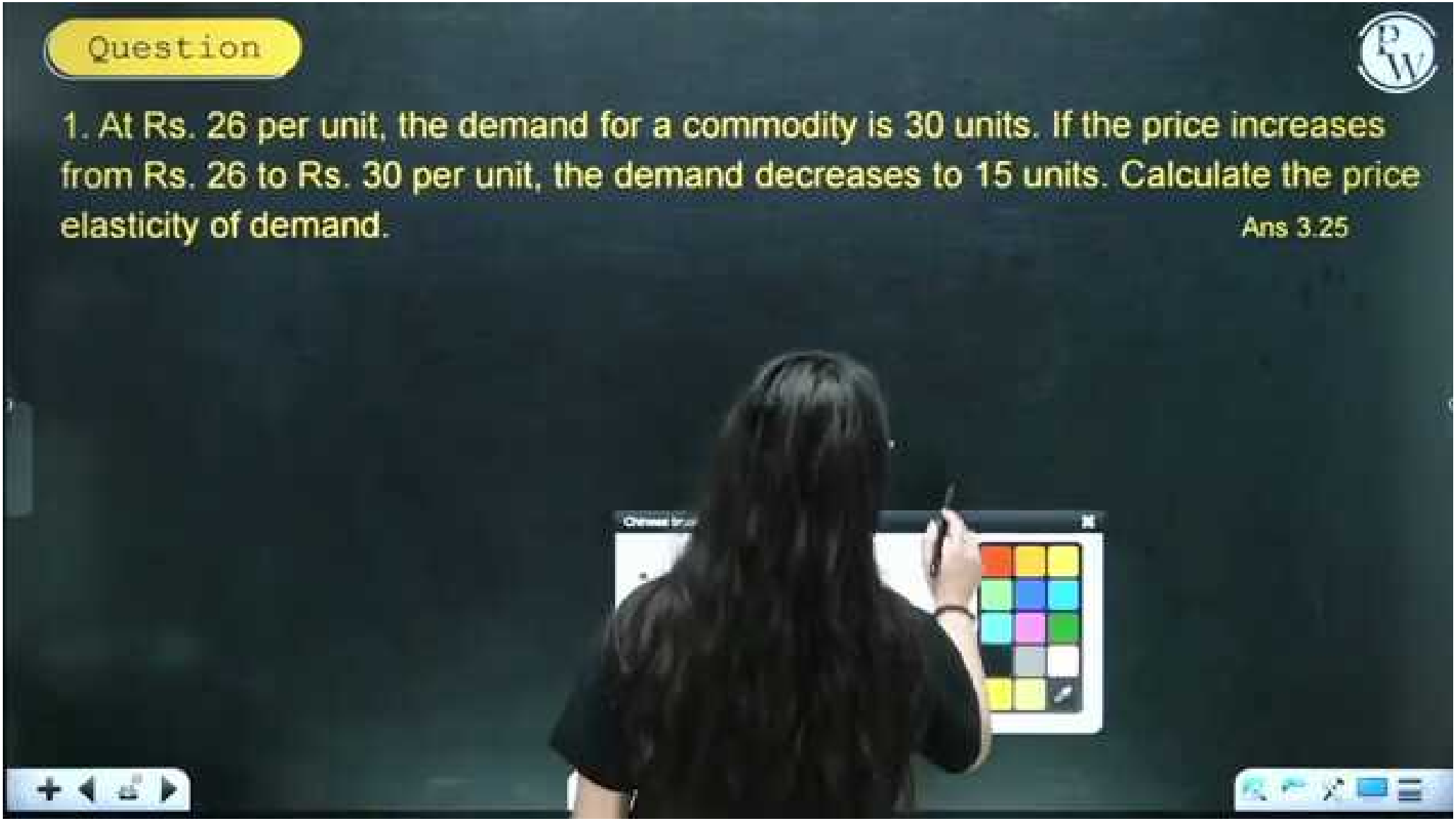

Elasticity of Demand (Ed)
Percentage Method
Proportional Method
Ed = (−) Percentage Change in Quantity Demanded / Percentage Change in Price
Percentage Change in Quantity Demanded
= ΔQ/Q × 100
ΔQ = Q1 − Q
Ed = (−) ΔQ/Q × P/ΔP
Or
(−) ΔQ/ΔP × P/Q
Here : ΔQ = Q1 − Q
ΔP = P1 − P

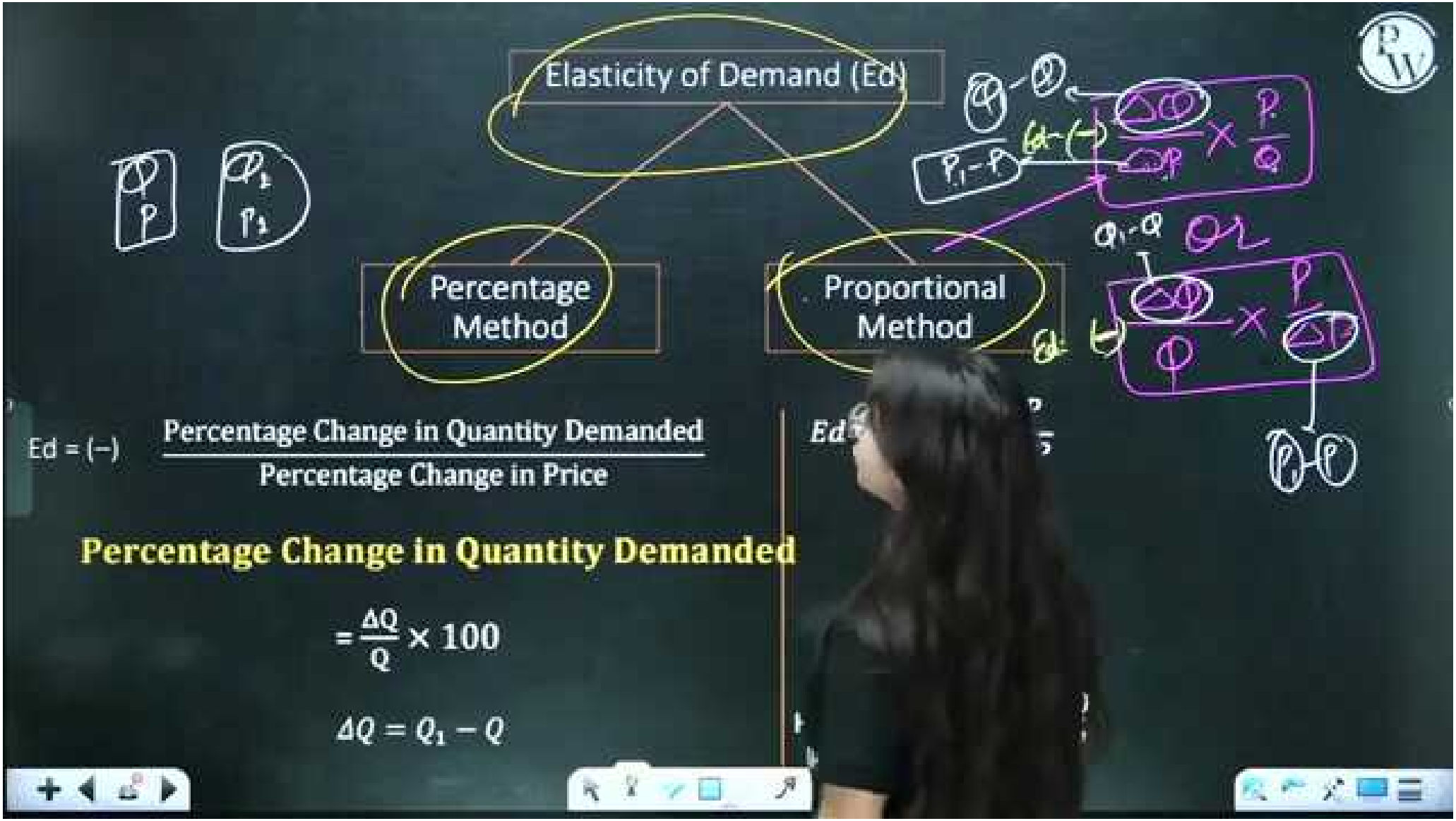

Percentage Method
Ed = (-) % age change in Qd / % age change in Price
ΔQ = Q2 - Q
ΔQ / Q x 100


Percentage Method
Ed = (-) % age change in Qd / % age change in Price
ΔP = P1 - P
ΔP / P x 100
ΔQ = Q1 - Q
ΔQ / Q x 100


Elasticity of Demand (Ed)
Percentage Method
Proportional Method
Ed = (–) Percentage Change in Quantity Demanded / Percentage Change in Price
Percentage Change in Quantity
$= \frac{\Delta Q}{Q} \times 100$
$\Delta Q = Q_1 - Q$
OR


Elasticity of Demand (Ed)
Percentage Method
Proportional Method
Ed = (−) Percentage Change in Quantity Dema / Percentage Change in Price
Percentage Change in Quantity D
$= \frac{\Delta Q}{Q} \times 100$
$\Delta Q = Q_1 - Q$
$Ed = (-)\frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$
Or
$\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$
$= Q_1 - Q$
$= P_1 - P$
OR


Question
1. At Rs. 26 per unit, the demand for a commodity is 30 units. If the price increases from Rs. 26 to Rs. 30 per unit, the demand decreases to 15 units. Calculate the price elasticity of demand.
Ans 3.25


Elasticity of Demand (Ed)
Percentage Method
Proportional Method
Ed = (−) Percentage Change in Quantity Demanded / Percentage Change in Price
Percentage Change in Quantity Demanded
$= \frac{\Delta Q}{Q} \times 100$
$\Delta Q = Q_1 - Q$

Question

2. Price elasticity of demand in found to be (−) 2 price falls from Rs. 10 per unit to Rs. 8 per unit. Find the percentage increase in quantity demanded.

$E_d = (-)\ \frac{\%\text{ age change in } Q_d}{\%\text{ age change in Price}}$

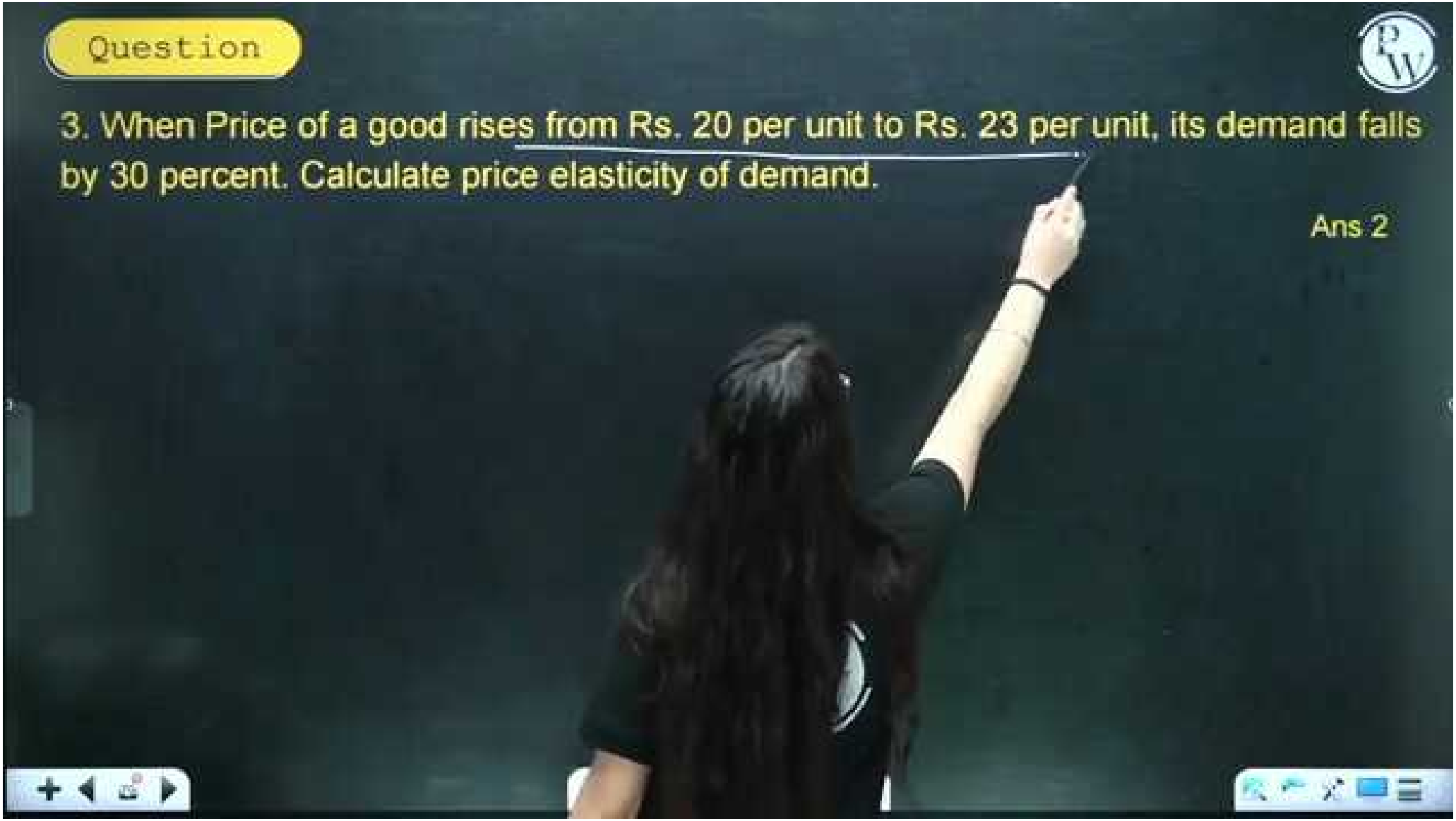
$E_d = (-)2$

$P = 10$

$P_1 \rightarrow 8$

% age change in Q_d = ?

Ans 40%


Question
3. When Price of a good rises from Rs. 20 per unit to Rs. 23 per unit, its demand falls by 30 percent. Calculate price elasticity of demand.
Ans 2

Question

3. When Price of a good rises from Rs. 20 per unit to Rs. 23 per unit, its demand falls by 30 percent. Calculate price elasticity of demand.

Ans 2

$P = 20$ $\Delta P = P_1 - P$

$P_1 \to 23$ $23 - 20 = 3$

% age change in Qd $= (+)30$

Ed = ??

$Ed = (-)\frac{\text{\% age change in Qd}}{\text{\% age change in Price}}$

$= (+)\frac{+30}{+15}$ (2)

Ed = 2

% change in Price

$\frac{\Delta P}{P} \times 100$

$\frac{3}{20} \times 100$

15

Ed > 1

2 > 1

Question

5. From the following table, calculate price elasticity of demand by the percentage method.

Ans 1.2

Price of X (Rs. Per unit)	Q	Total Expenditure = P × Q (Rs.)
4 — P_1	150	TE 600
5 — P_2	105	TE 525

$\Delta Q = Q_1 - Q$

$105 - 150 = -45$

$\Delta P, P_1 - 1$

$5 + = 1$

$E_d = \frac{\%\text{ age change in } Q_d}{\%\text{ age change in Price}}$

$= \frac{30}{25} = 1.2$

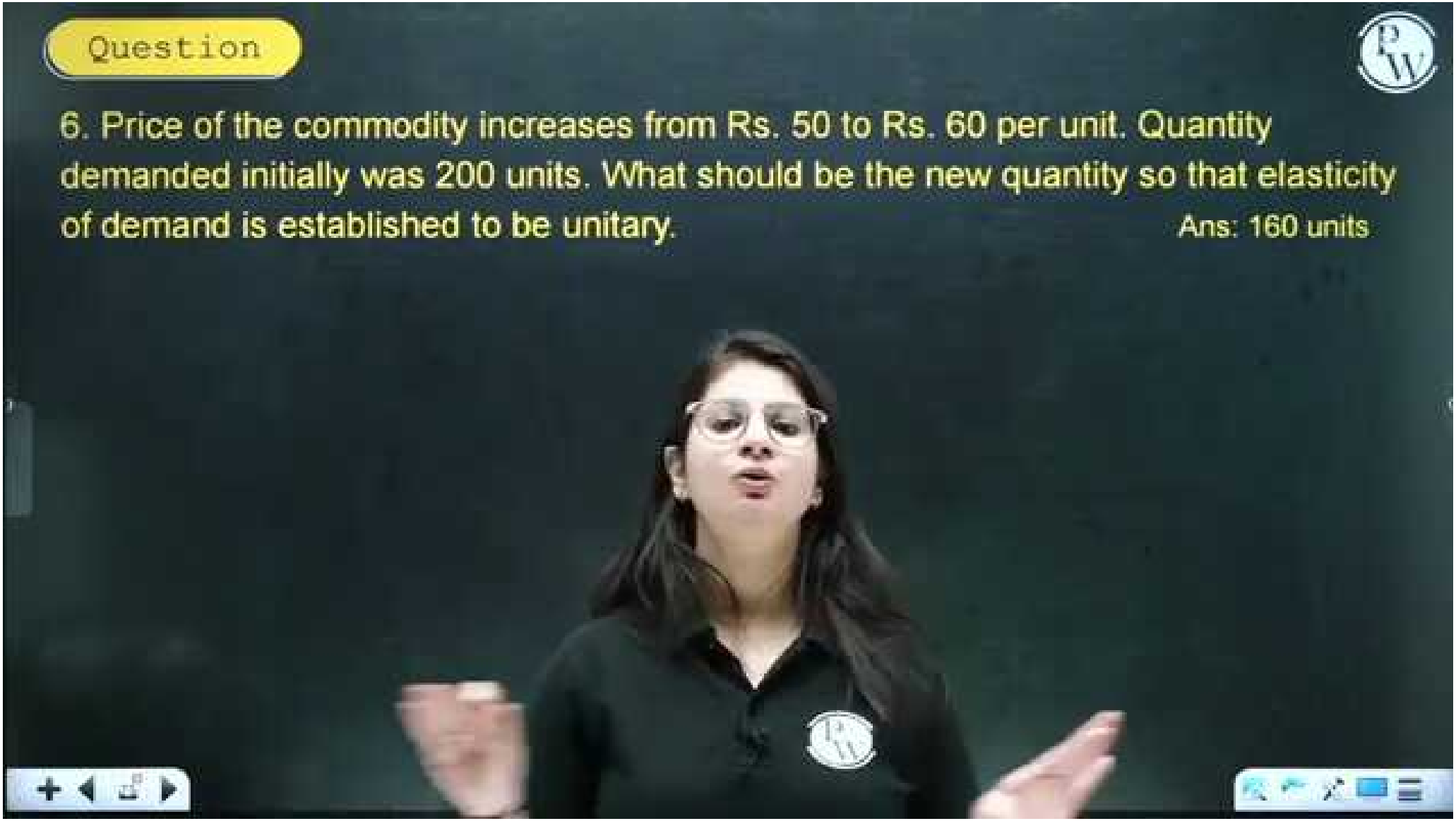
%age change in Q_d

$= \frac{50}{Q} \times 100$

%age change in Price

$= \frac{1}{5} \times 100 = 20$

$= \frac{-45}{150} \times 100 = -30$


Question
6. Price of the commodity increases from Rs. 50 to Rs. 60 per unit. Quantity demanded initially was 200 units. What should be the new quantity so that elasticity of demand is established to be unitary.
Ans: 160 units

Question

6. Price of the commodity increases from Rs. 50 to Rs. 60 per unit. Quantity demanded initially was 200 units. What should be the new quantity so that elasticity of demand is established to be unitary.

Ans: 160 units

$P = 50$
$P_1 = 60$
$Q = 200$
$Q_1 = ?$
$Ed = 1$

$\Delta P = P_1 - P$
$60 - 50$
10

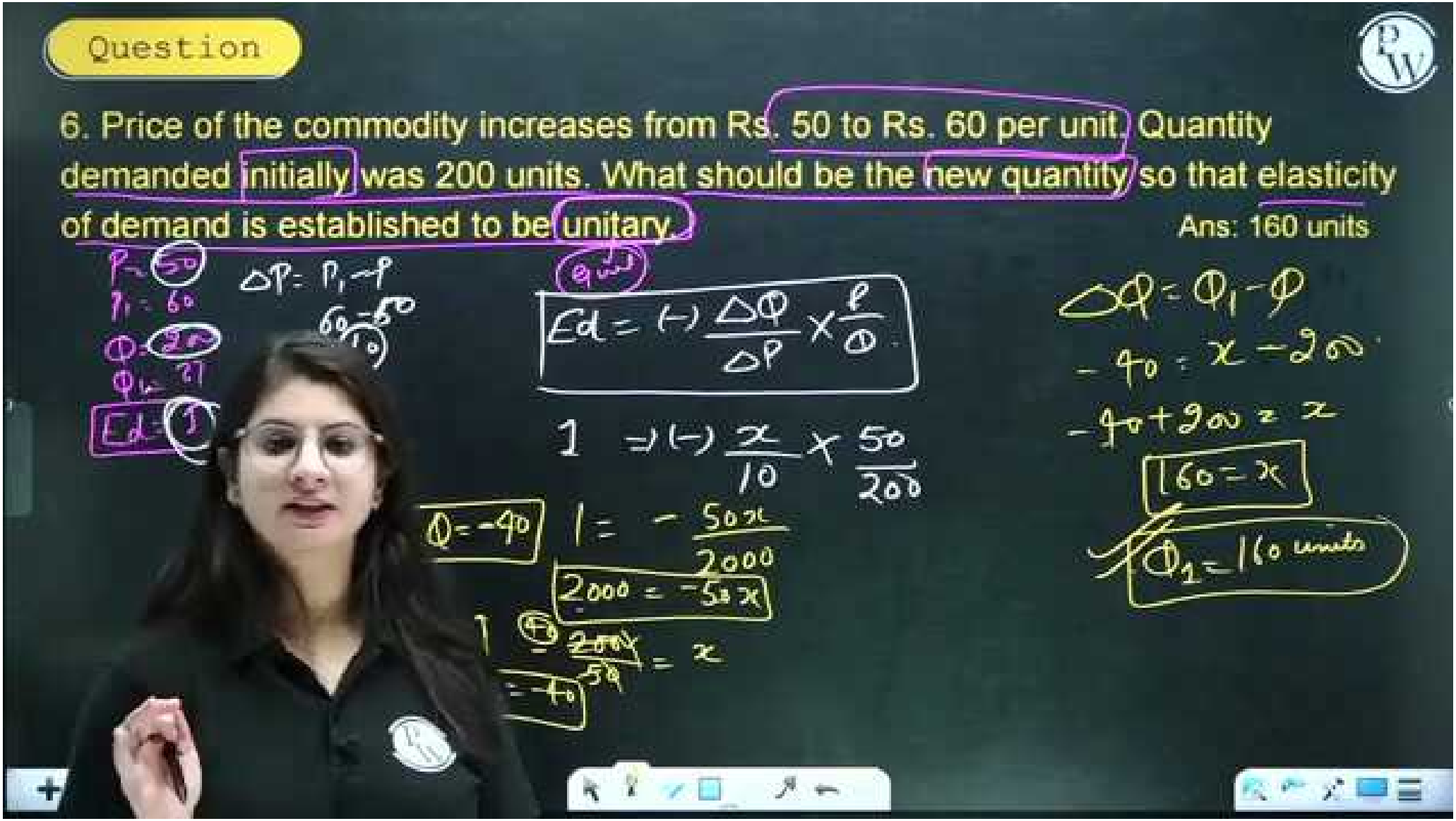
$$Ed = (-)\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

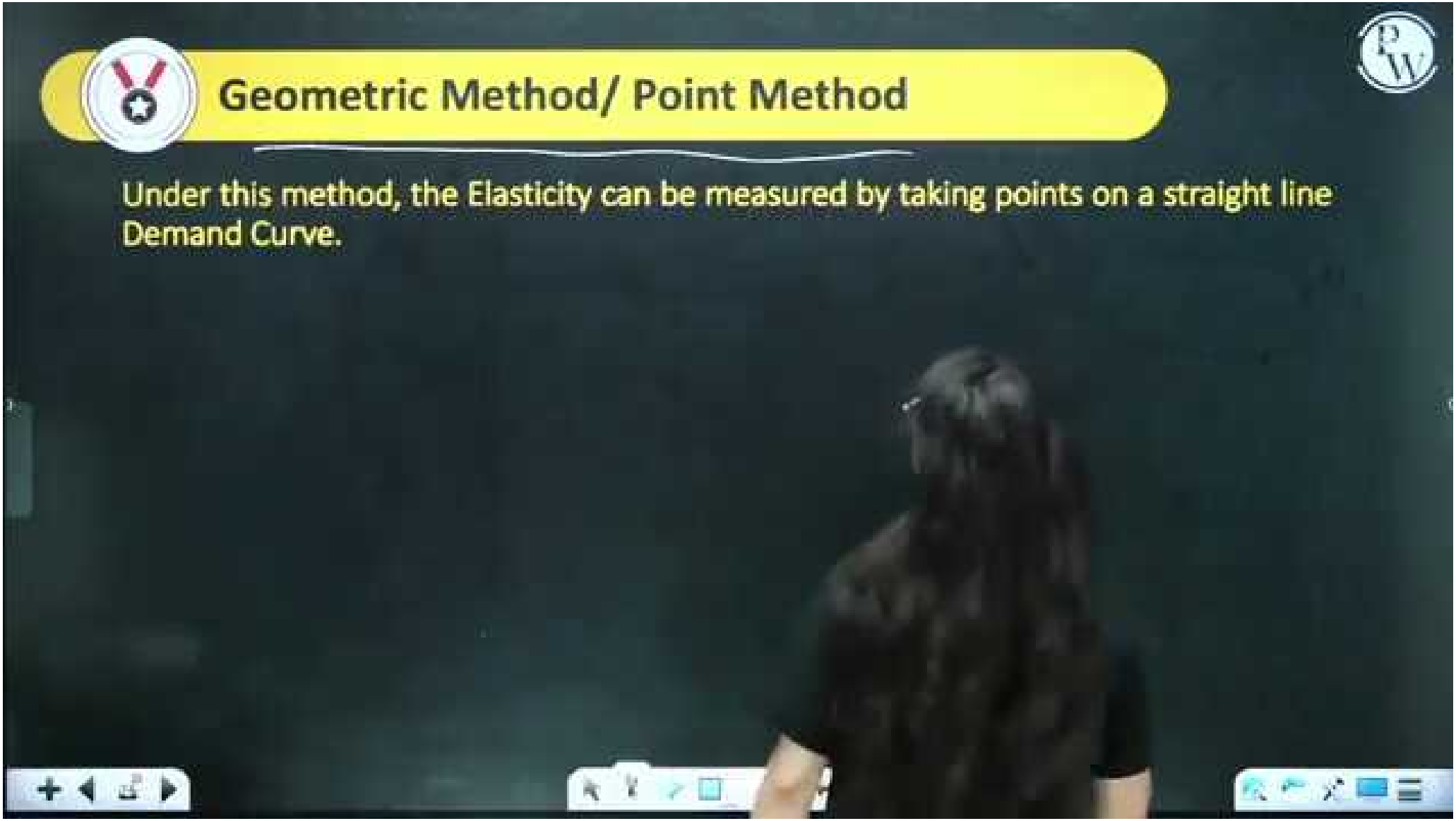
$$1 = (-)\frac{x}{10} \times \frac{50}{200}$$

Question

6. Price of the commodity increases from Rs. 50 to Rs. 60 per unit. Quantity demanded initially was 200 units. What should be the new quantity so that elasticity of demand is established to be unitary.

Ans: 160 units




Geometric Method/ Point Method
Under this method, the Elasticity can be measured by taking points on a straight line Demand Curve.

Geometric Method/ Point Method

Under this method, the Elasticity can be measured by taking points on a straight line Demand Curve.

$Ed = \frac{\text{Lower Segment}}{\text{Upper Segment}}$

Ed = 0
Ed > 1
Ed < 1
Ed = 1
Ed = ∞

(iii) C → $Ed = \frac{CE}{CA} \rightarrow \frac{2}{2} \rightarrow 1$ → Ed = 1

(iv) D = $Ed = \frac{DE}{DA} \rightarrow \frac{1}{3}$ → 0.3

Ed < 1
0 < 1

(i) A → $Ed = \frac{AE}{0} \rightarrow \infty$

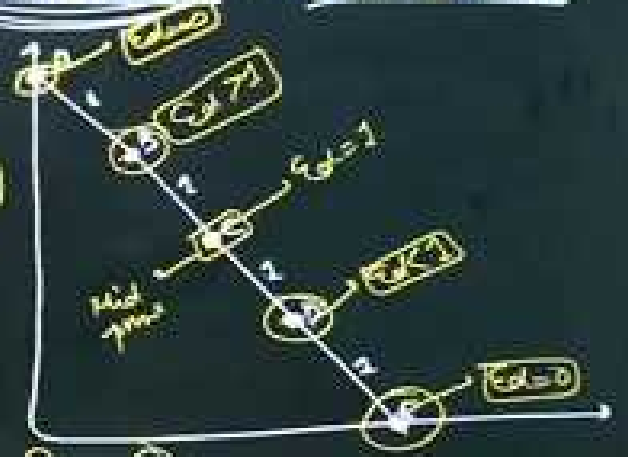
Ed = ∞

→ $Ed = \frac{0}{AE} = \frac{0}{4} = 0$

Ed = 0

(v) B → $Ed = \frac{BE}{BA} \rightarrow \frac{3}{1} \rightarrow 3$

Ed > 1
3 > 1



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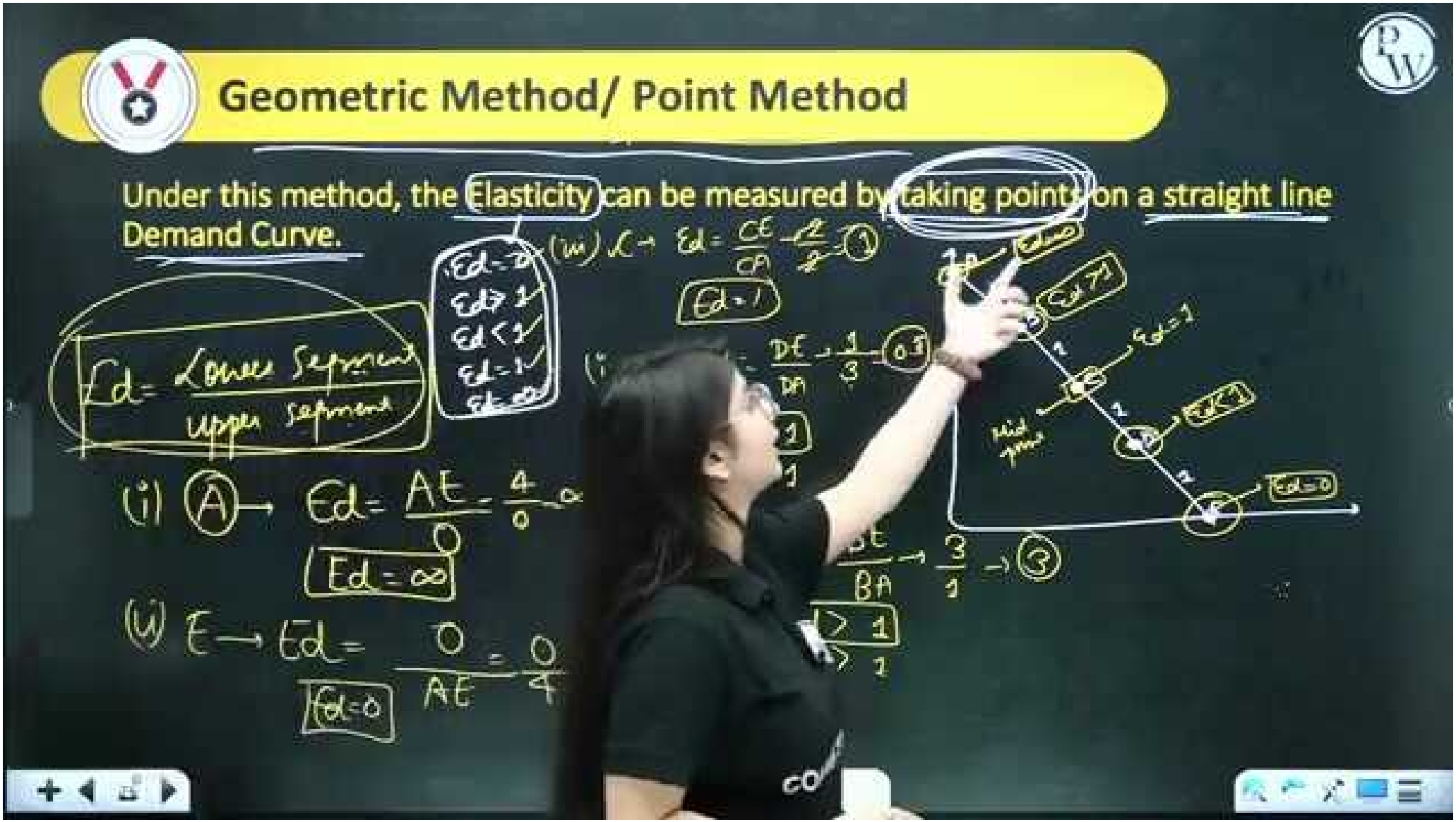
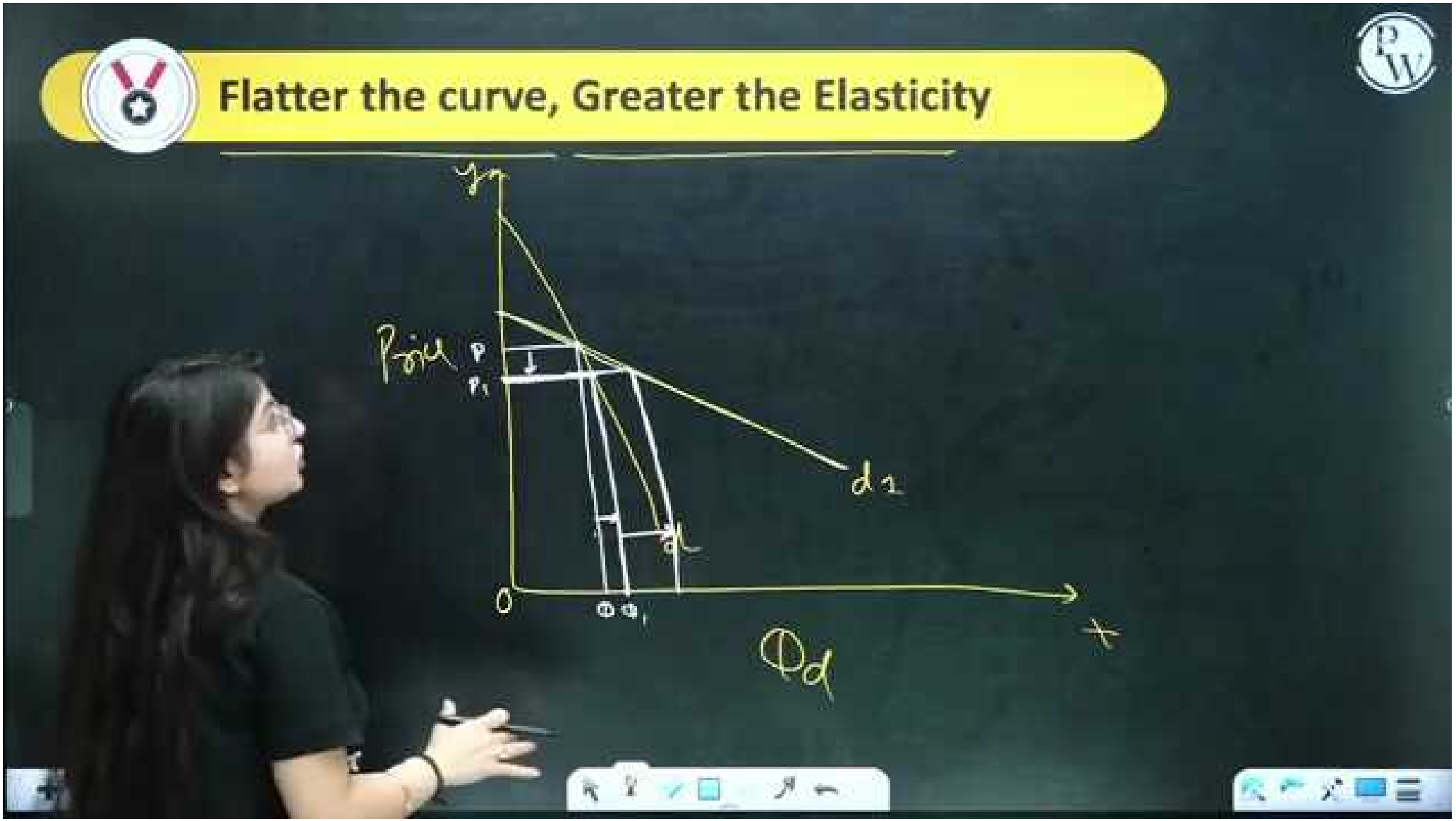


Flatter the curve, Greater the Elasticity



Factors affecting Price Elasticity of Demand:

1. Nature of Commodity:

- Necessity goods (Salt, Kerosene Oil, Vegetables etc.) have less elastic of demand.
- Luxurious goods (Like costly Furniture, Luxurious Car) have more elasticity of demand
- Comfort Goods (like clothes, bread, butter) have moderate elasticity of demand

2. Availability of Substitutes:

- If close substitutes are there – more elasticity of demand.
  (Ex. Tea & Coffee)
- If close substitutes are not there – inelasticity of demand.


$E_d = \frac{1}{\text{Slope of Demand Curve}} \times \frac{P}{Q}$
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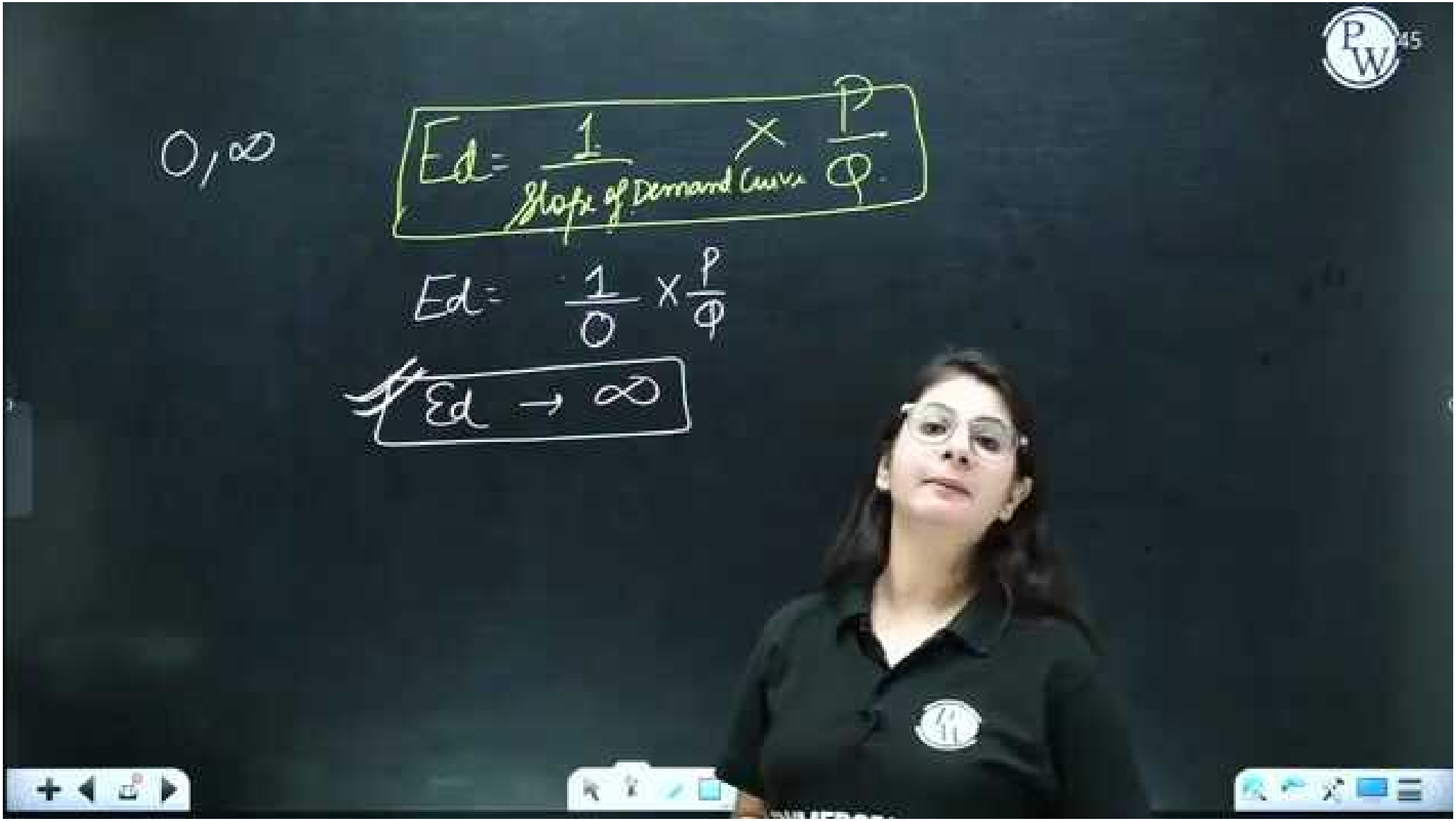
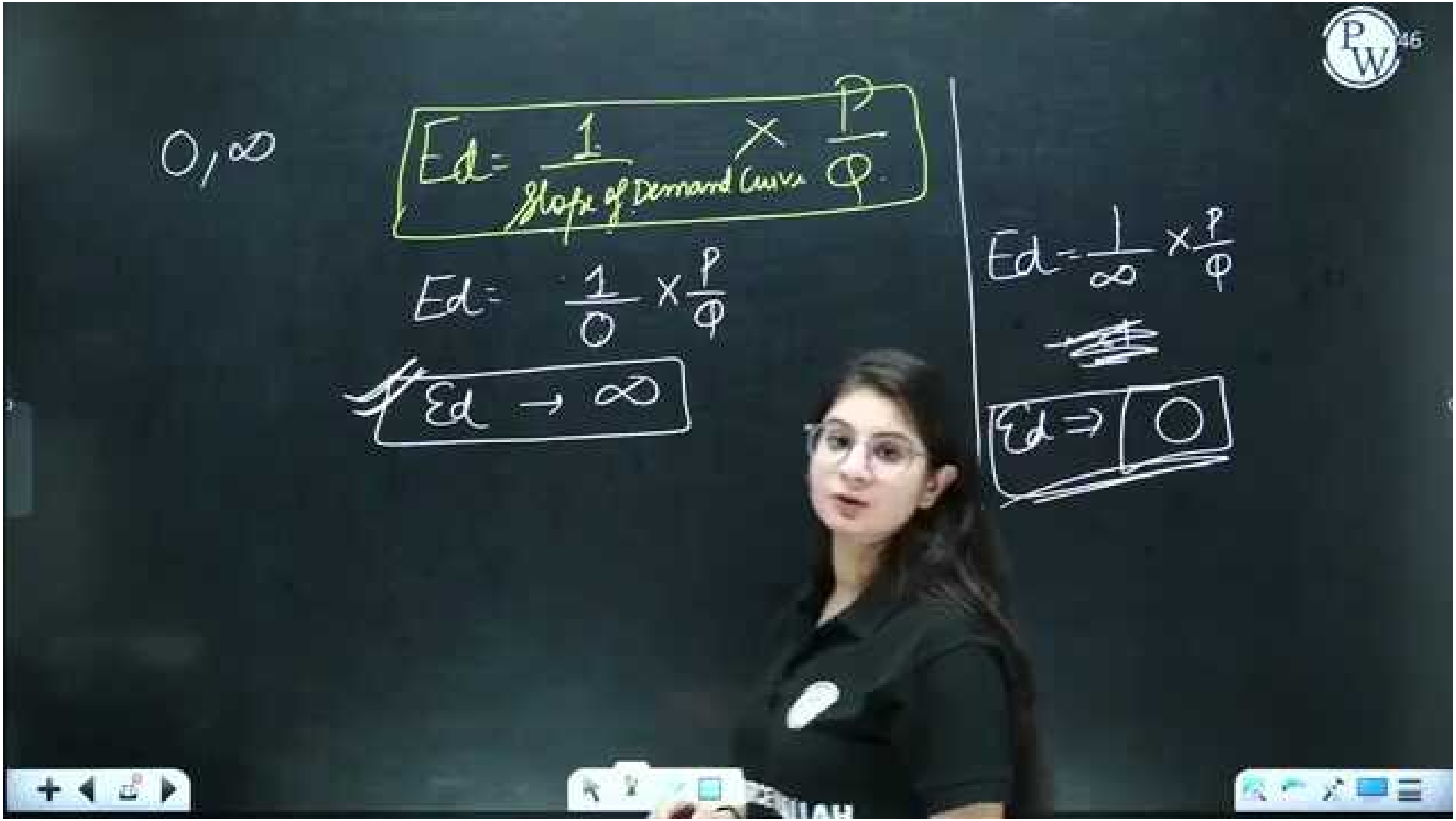

0, ∞
Ed = 1 / Slope of Demand Curve × P/Q
Ed = 1/0 × P/Q
Ed → ∞


0, ∞
Ed = 1 / Slope of Demand Curve × P/Q
Ed = 1/0 × P/Q
Ed → ∞
Ed = 1/∞ × P/Q
Ed ⇒ 0


1 More Elasticity of demand
2 Less " " "
3 Inelastic " "
ND
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3. Postponed of Use:

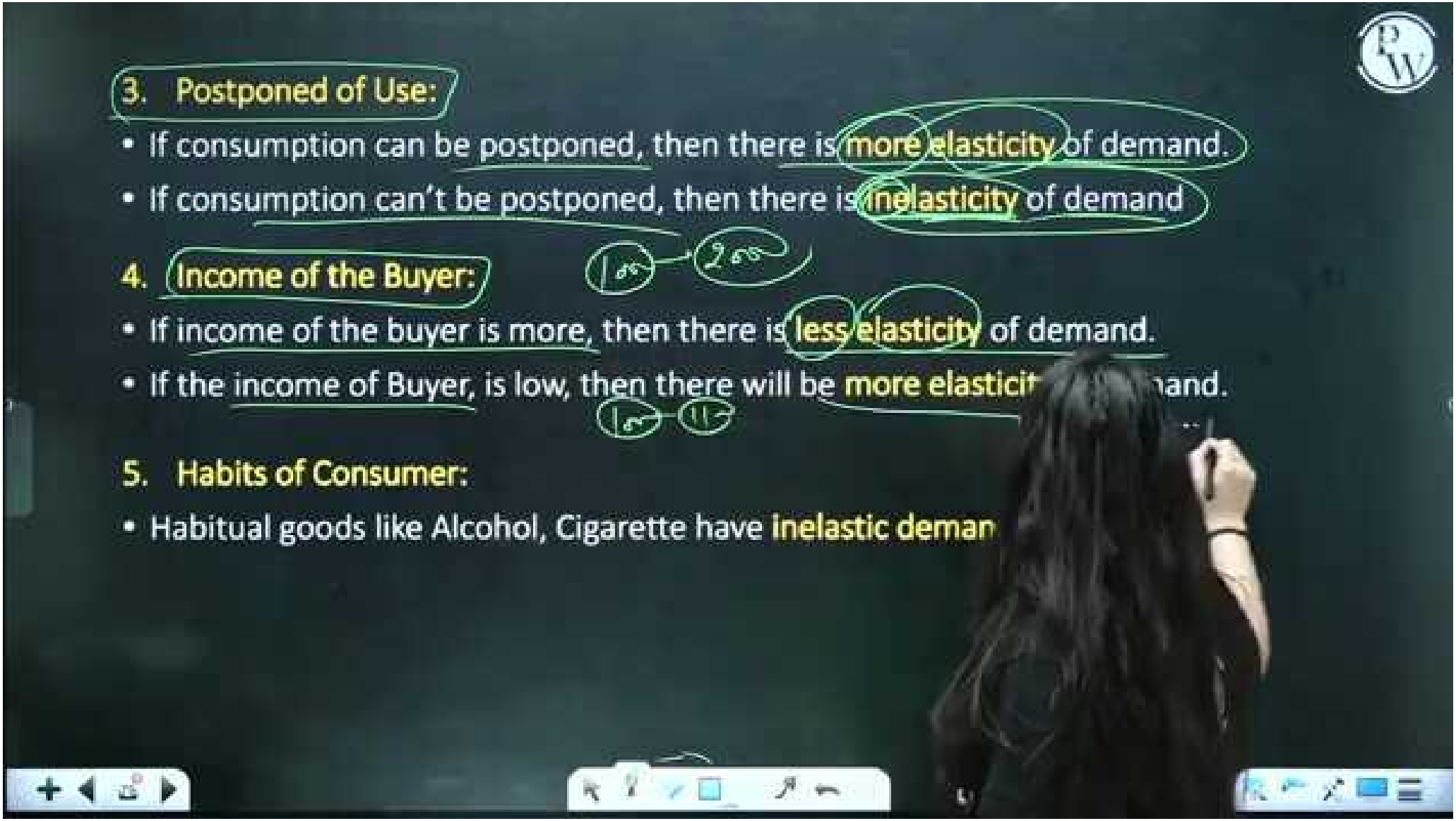
- If consumption can be postponed, then there is more elasticity of demand.
- If consumption can't be postponed, then there is inelasticity of demand

4. Income of the Buyer:

- If income of the buyer is more, then there is less elasticity of demand.
- If the income of Buyer, is low, then there will be mo ity of demand.

5. Habits of Consumer:

- Habitual goods like Alcohol, Cigarette have inela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6. Proportion of Income spent on a commodity

- If consumer spends large proportion of their income (car, scooter), then there is more elasticity of demand
- If consumer spends small position of their income (tooth paste, newspaper, soap) , then there is inelastic demand.

7. Time Period:

Demand is inelastic in short period.

Demand is elastic in long period.

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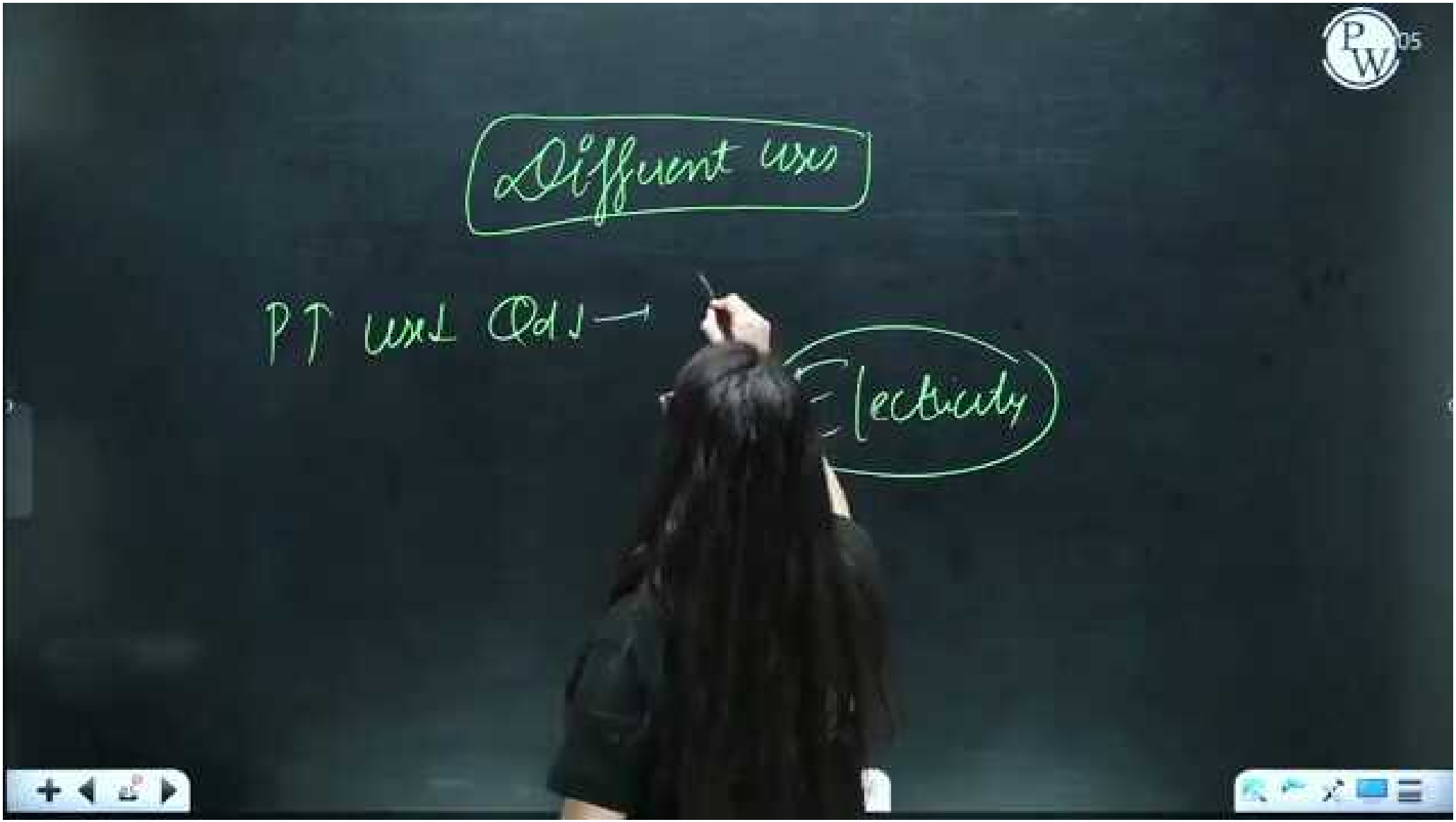
different uses
Electricity

Question

When demand curve is parallel to X-axis, elasticity of demand is:

A Unity

B Zero

C Greater than unity

D infinity

Question

When demand curve is parallel to X-axis, elasticity of demand is:

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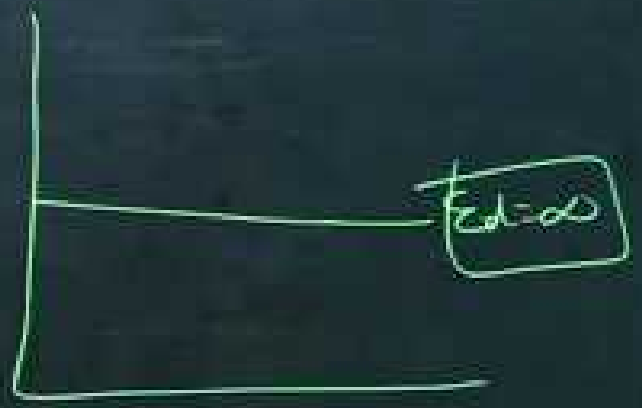


Question

When percentage change in demand is less than percentage change in price, demand is:

A perfectly inelastic

B perfectly elastic

C more than unitary elastic

D Less than unitary elastic

Question

When percentage change in demand is less than percentage change in price, demand is:

$E_d < 1$

A perfectly inelastic

B perfectly elastic

C more tha…astic

D Less than unitary elastic

Question

When there is no change is quantity demanded in response to any change in price, it is a situation of

A Zero price elasticity

B Infinite price elasticity

C Unitary price elasticity

D None of these

Question

When there is no change is quantity demanded in response to any change in price, it is a situation of

A. Zero price elasticity

B. Infinite price elasticity

C. Unitary price elasticity

D. None of these

P	Qd
10	10
20	10

Question

What will be the elasticity of demand when demand curve is parallel to Y-axis?

A Unity

B Zero

C Less than unity

D More than unity

Question

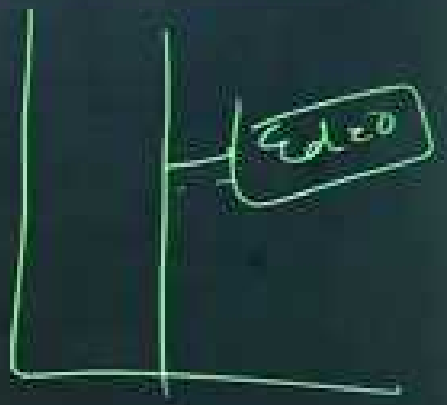
What will be the elasticity of demand when demand curve is parallel to Y-axis?

A Unity

B Zero

than unity

D More than unity



Question

On all points of a rectangular hyperbola demand curve, elasticity of demand is:

A Equal to unity

B Zero

C Greater than unity

D Less than unity

Question

On all points of a rectangular hyperbola demand curve, elasticity of demand is:

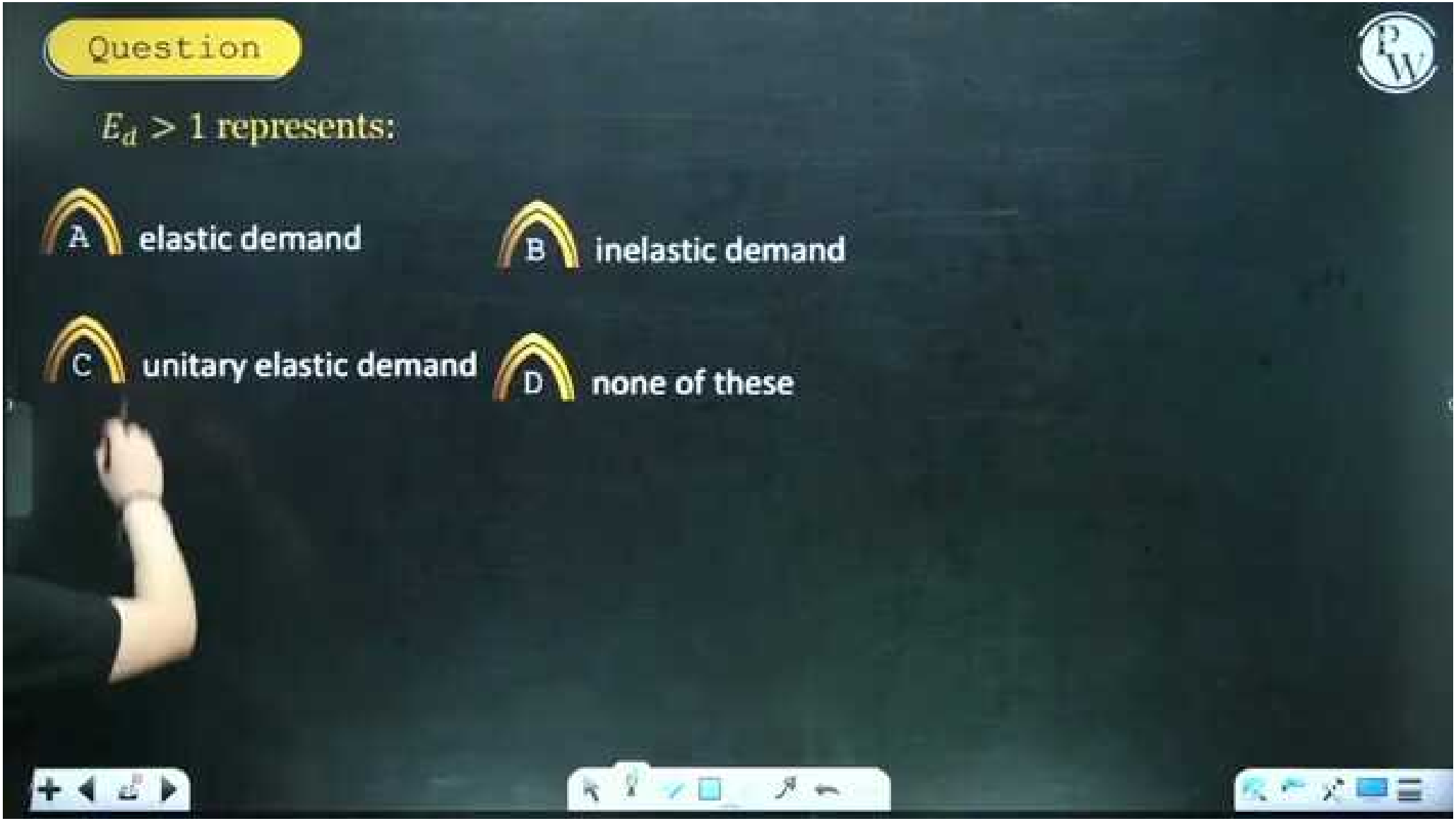
$E_d = 1$

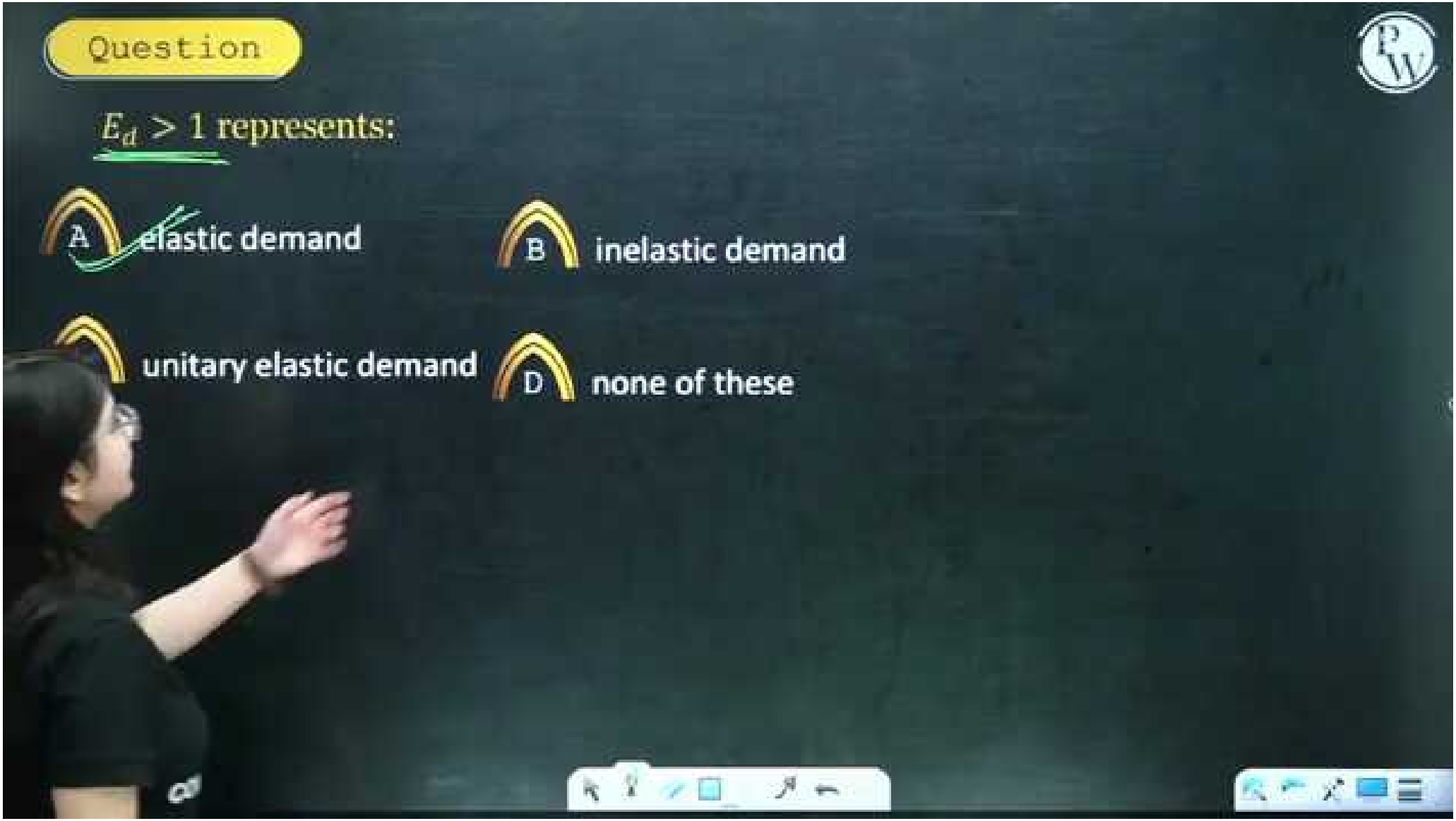
A Equal to unity

B Zero

C Greater than unity

D Less than unity


Question
$E_d > 1$ represents:
A elastic demand
B inelastic demand
C unitary elastic demand
D none of these


Question
$E_d > 1$ represents:
A elastic demand
B inelastic demand
unitary elastic demand
D none of these


Question
$E_d > 1$ represents:
A elastic demand
B inelastic demand
C tary elastic demand
D none of these
Ed: 1

Question

As the flatness of the demand curve increases, the elasticity of demand becomes:

A Higher

B Lower

C Equal to infinity

D Equal to zero

Question

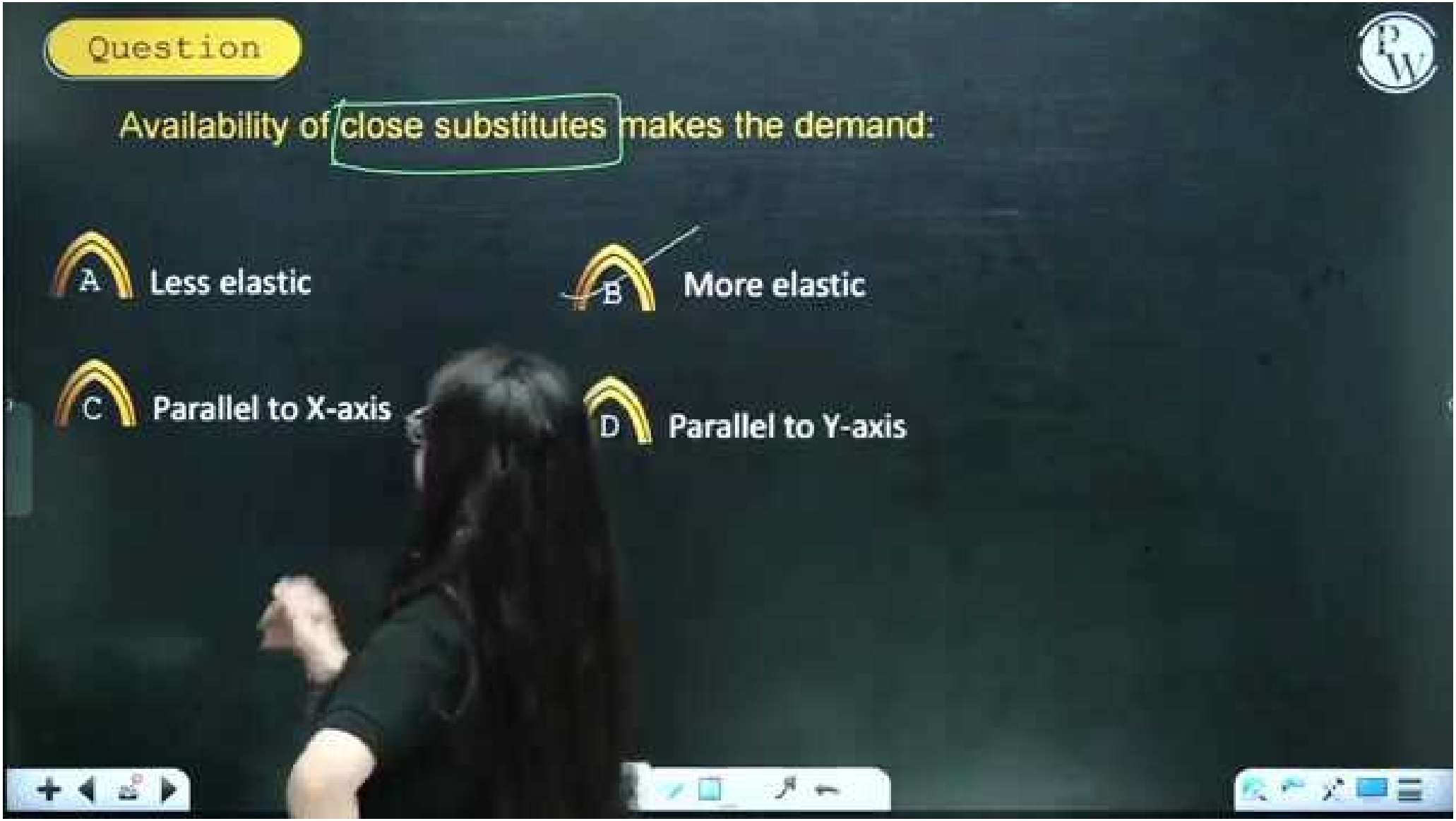
Availability of close substitutes makes the demand:

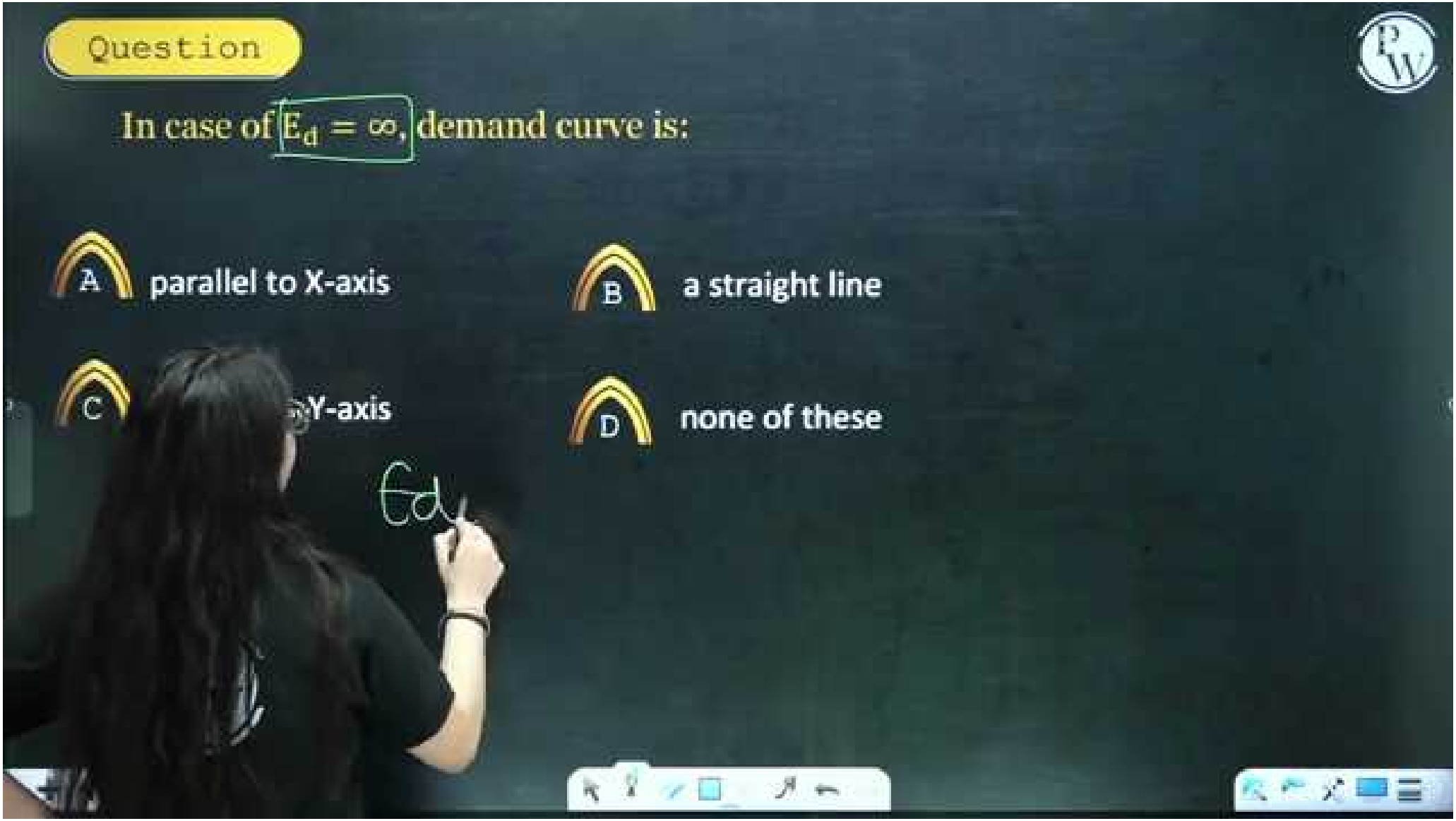
A Less elastic

B More elastic

C Parallel to X-axis

D Parallel to Y-axis


Question
Availability of close substitutes makes the demand:
A Less elastic
B More elastic
C Parallel to X-axis
D Parallel to Y-axis


Question
In case of $E_d = \infty$, demand curve is:
A parallel to X-axis
B a straight line
C Y-axis
D none of these
Ed

Question

In case of $E_d = \infty$, demand curve is:

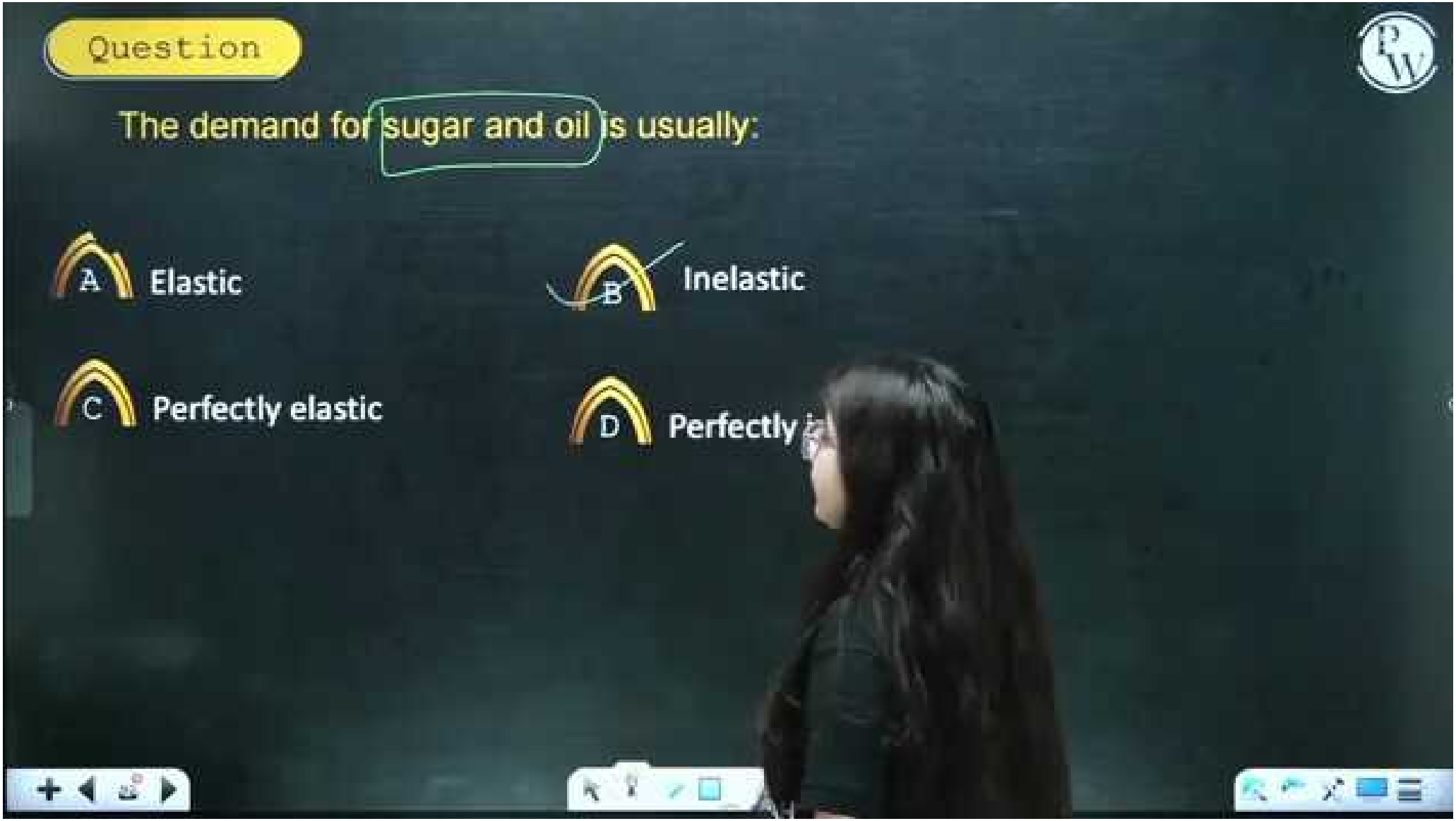
A parallel to X-axis

B a straight line

C parallel to Y-axis

D none of these

$E_d = \infty$


Question
The demand for sugar and oil is usually:
A Elastic
B Inelastic
C Perfectly elastic
D Perfectly

Question

When slope of demand curve =0, the elasticity of demand is:

A 0

B 1

C ∞

D None of these

Question

When slope of demand curve =0, the elasticity of demand is:

A 0

B 1

C ∞

D None of these

$$E_d = \frac{1}{\text{Slope of DC}} \times \frac{P}{Q}$$

$$\rightarrow \frac{1}{0} \times \frac{?}{Q}$$

$E_d \rightarrow \infty$