



# UDAAN



**2026**

## Triangles

**MATHS**

**LECTURE-6**

**BY-RITIK SIR**



# Topics *to be covered*



**A**

Practice Questions

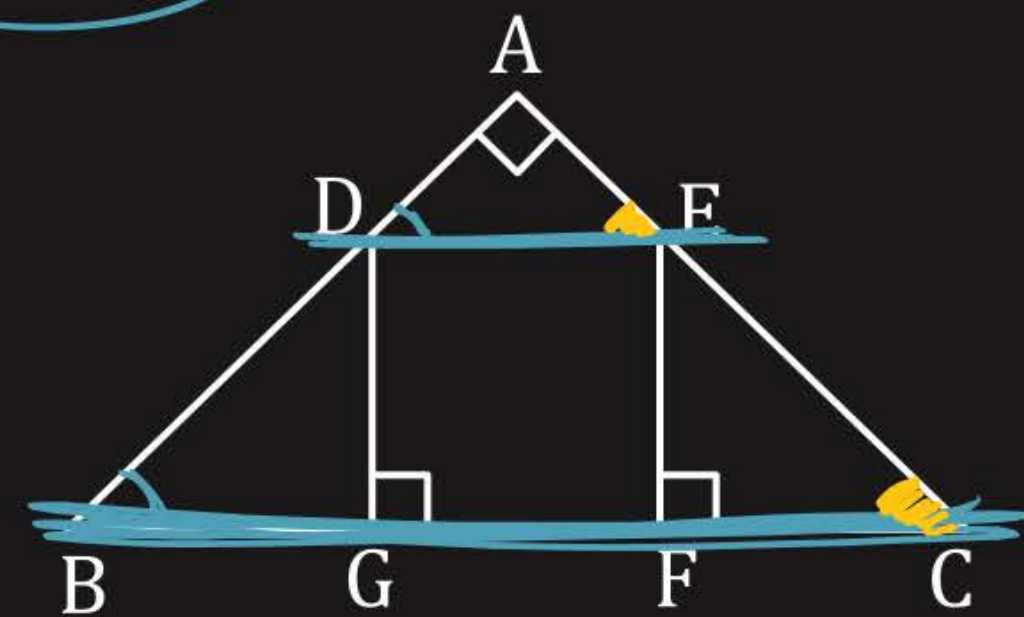
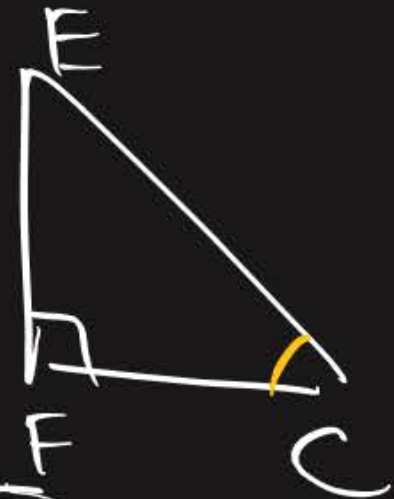
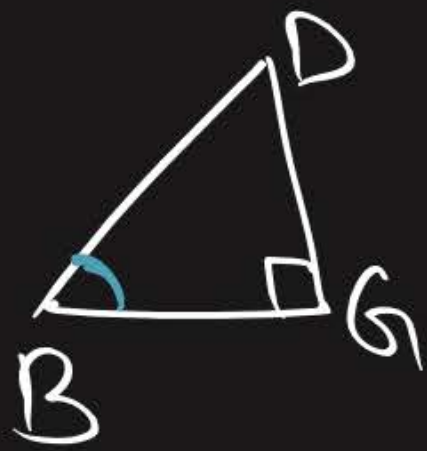
**B**

CBSE 2025 Questions

*next class*

#Q. In the given figure, DEFG is a square and  $\angle BAC = 90^\circ$ .  
Show that  $FG^2 = BG \times FC$ .

$DE \parallel BC$   $\Rightarrow DE \parallel GF$



From (1) and (2)

$\triangle GBD \sim \triangle FEC$

CPST,  $\frac{GB}{FE} = \frac{BD}{EC} = \frac{GD}{FC}$

$\frac{GB}{FE} = \frac{GD}{FC}$

$GB \times FC = GF^2$

$\triangle ADE \sim \triangle GBD$

$\triangle ADE \sim \triangle FEC$

#Q. In figure,  $\triangle FEC \cong \triangle GDB$  and  $\angle 1 = \angle 2$ . Prove that  $\triangle ADE \sim \triangle ABC$ .

$AD = AE$

#OT

G:  
Top:  
Proof:  $\because \triangle FEC \cong \triangle GDB$   
 $\Rightarrow$   
 $FE = GD$  X  
 $EC = DB$  ✓  
 $FC = GB$  X  
 $\angle F = \angle G$  X  
 $\angle E = \angle D$  X  
 $\angle C = \angle B$  ✓  
 $\angle 4 = \angle 3$

$\angle 3 = \angle 4$

$AC = AB$

$1 = \frac{AB}{AC}$  ①

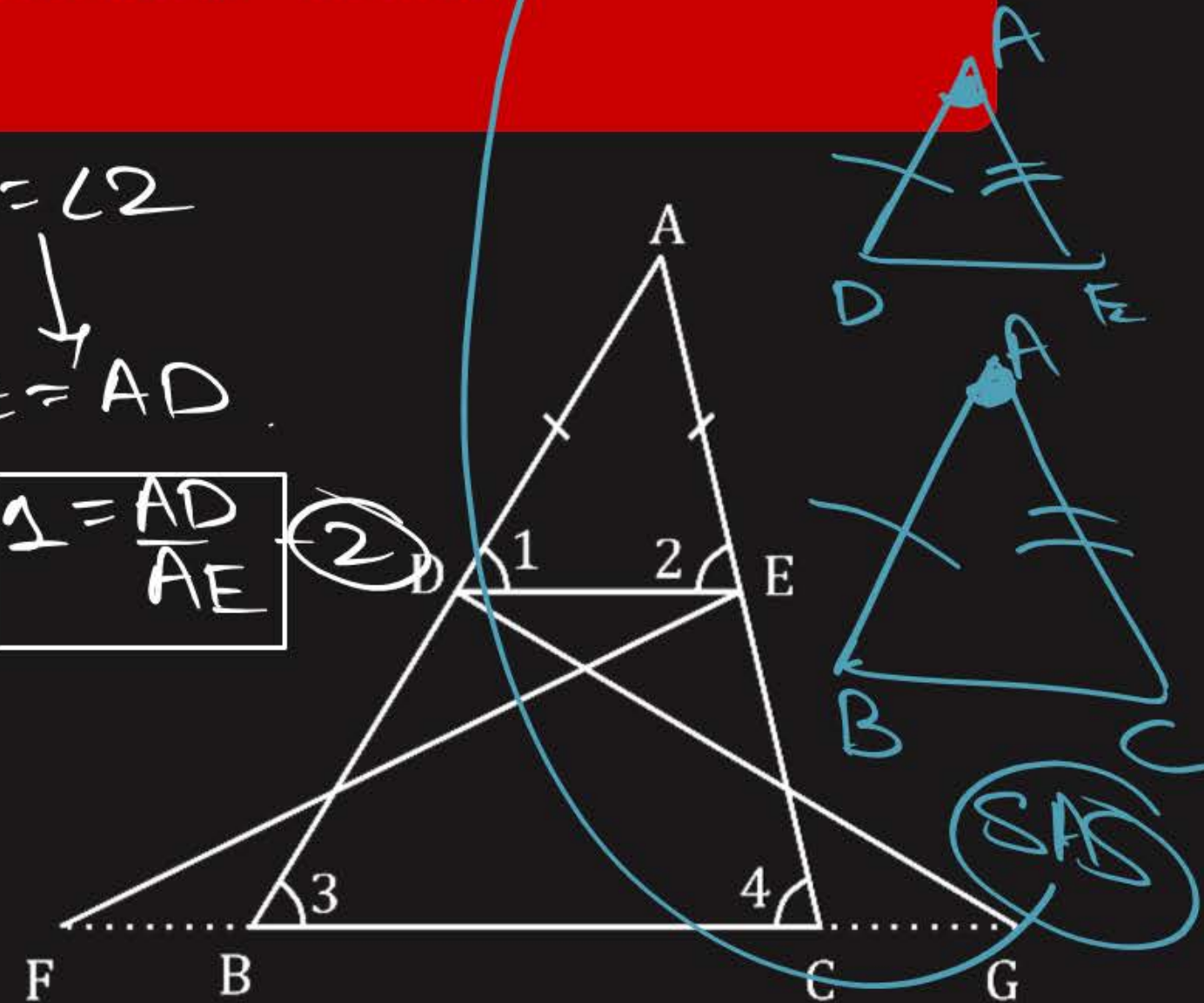
$\frac{AB}{AC} = \frac{AD}{AE}$

$\frac{AB}{AD} = \frac{AC}{AE}$

$\angle 1 = \angle 2$

$AE = AD$

$1 = \frac{AD}{AE}$  ②



#OT



#Q. In the given figure  $\angle CEF = \angle CFE$ . F is the midpoint of DC. Prove that  $\frac{AB}{BD} = \frac{AE}{FD}$ .

Given:  
Top:

Const:  $DO \parallel BE$

Proof: In  $\triangle ABE$

By B.P.T,  $\frac{AB}{DB} = \frac{AE}{OE}$

also, In  $\triangle ODC$ , By B.P.T)

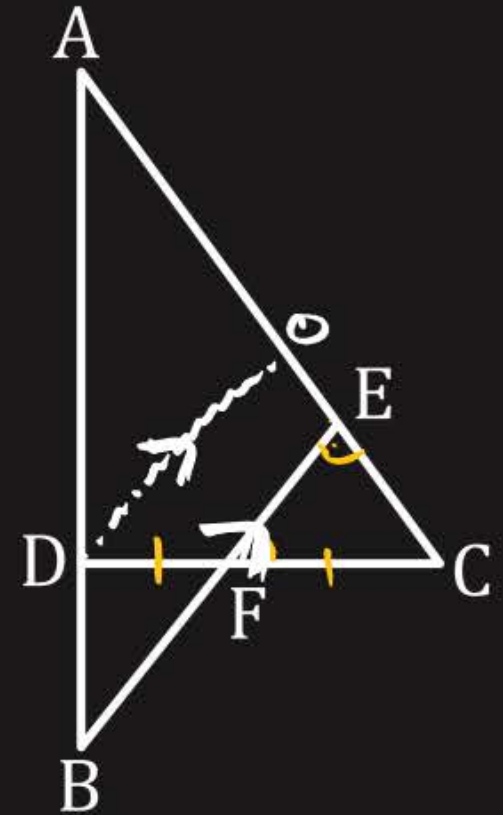
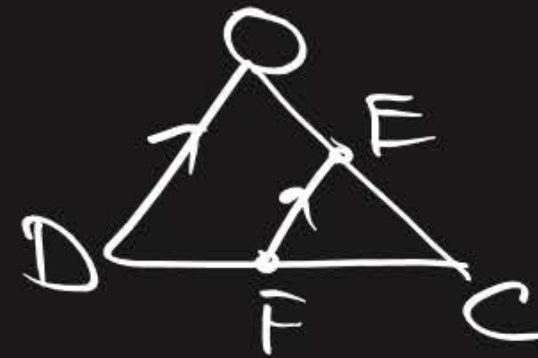
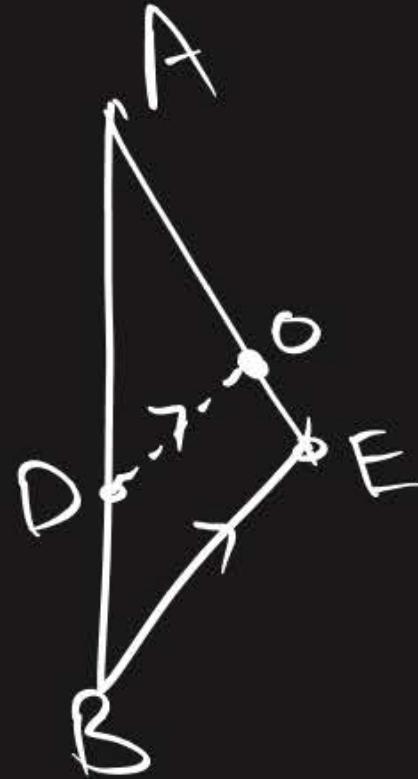
$$\frac{DF}{FC} = \frac{OE}{EC}$$

$$\therefore EC = FC$$

$$DF = OE$$

$$\Rightarrow \frac{AB}{DB} = \frac{AE}{DF}$$

H.P



#Q



#Q. Through the mid-point M of the side CD of a parallelogram ABCD, the line BM is drawn intersecting AC in L and AD produced in E. Prove that  $EL = 2BL$ .

Gi:

Top:

Proof:

In  $\triangle ALE$  and  $\triangle CLB$   
 $\angle 1 = \angle 2$  (V.O.A)  
 $\angle 3 = \angle 4$  (A.T.A)

AA

$\triangle ALE \sim \triangle CLB$

By CPCT,

$$\frac{AL}{CL} = \frac{EL}{BL} = \frac{AE}{CB}$$

In  $\triangle DME$   
and  $\triangle CMB$   
 $\angle 5 = \angle 6$   
 $DM = MC$   
 $\angle DCM = \angle MDE$   
By A.S.A,  
 $\triangle DME \cong \triangle CMB$   
By CPCT,

$$DE = BC$$

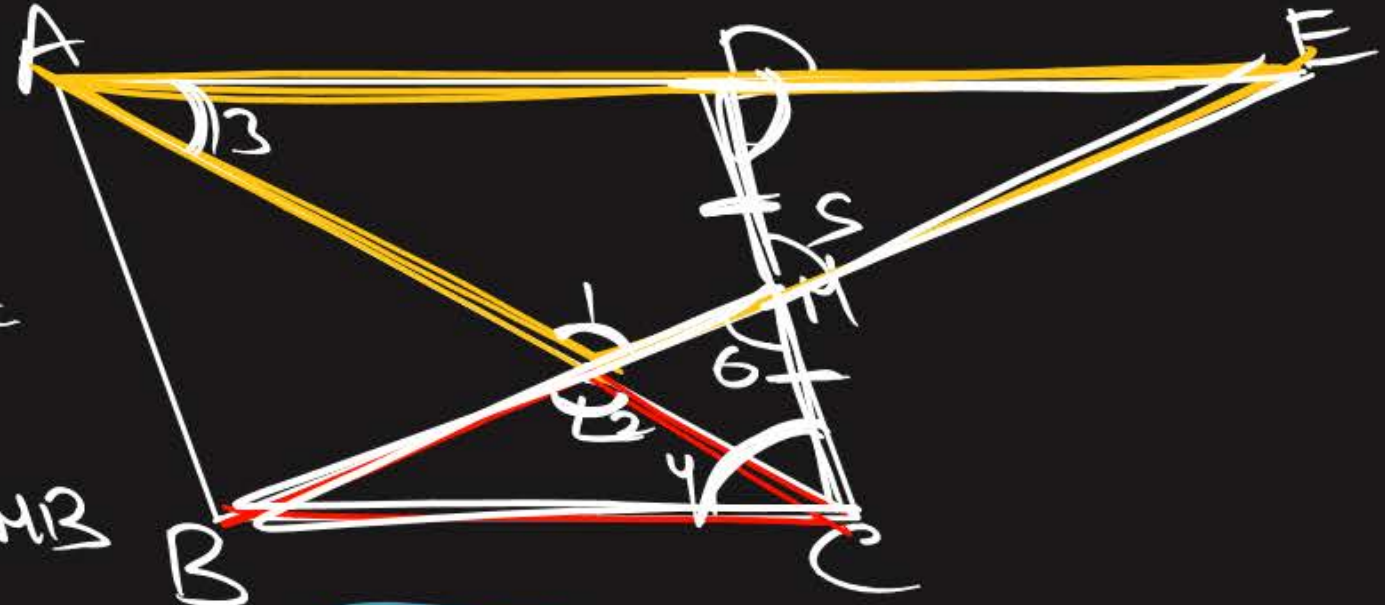
$$AE = AD + DE$$

$$AE = BC + BC$$

$$AE = 2BC$$

$$\frac{EL}{BL} = \frac{2BC}{BC}$$

$$EL = 2BL \quad \underline{\underline{H.P}}$$

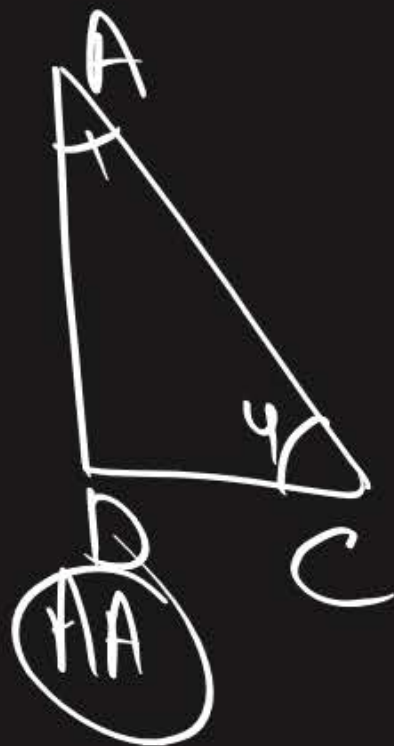
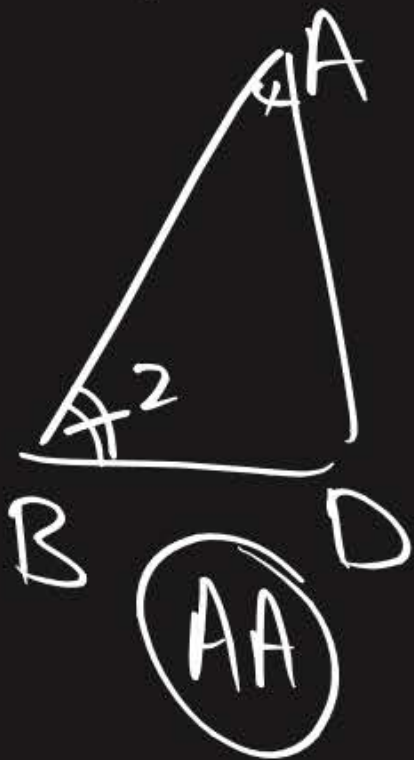
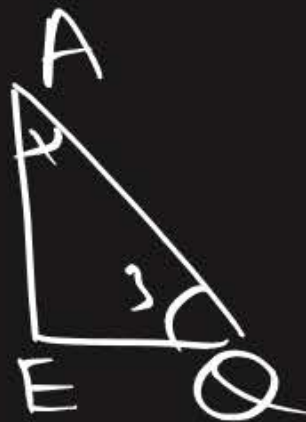


#Q. In a  $\triangle ABC$ , let P and Q be points on AB and AC respectively such that  $PQ \parallel BC$ .  
Prove that the median AD bisects PQ.

G:  $PQ \parallel BC$ ,  $AD = DC$ .

To p:  $PE = EQ$

Proof:



$\triangle AEP \sim \triangle ADB$ ,  $\triangle AEQ \sim \triangle ADC$ .

$$\frac{AE}{AD} = \frac{EP}{DB} = \frac{AP}{AB}$$

①

$$\frac{AE}{AD} = \frac{EQ}{DC} = \frac{AQ}{AC}$$

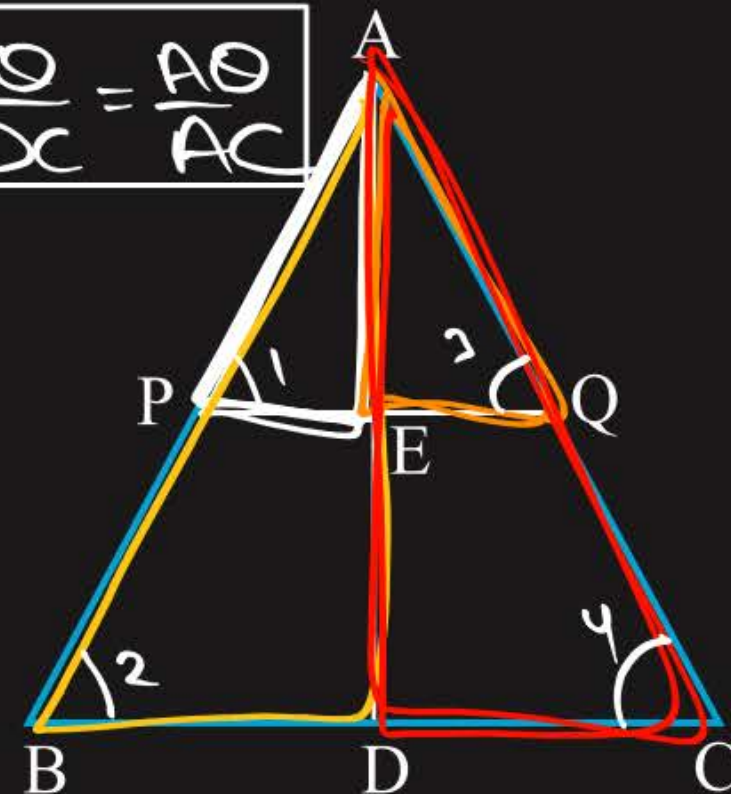
②

From ① and ②

$$\frac{PE}{DB} = \frac{EQ}{DC}$$

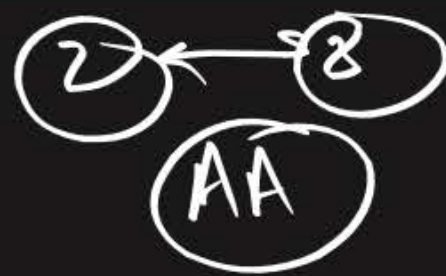
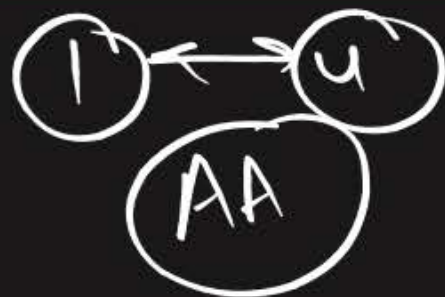
$$PE = EQ$$

H.P



#Q. In figure,  $l \parallel m$  and line segments AB, CD and EF are concurrent at point P.

Prove that  $\frac{AE}{BF} = \frac{AC}{BD} = \frac{CE}{FD}$ .



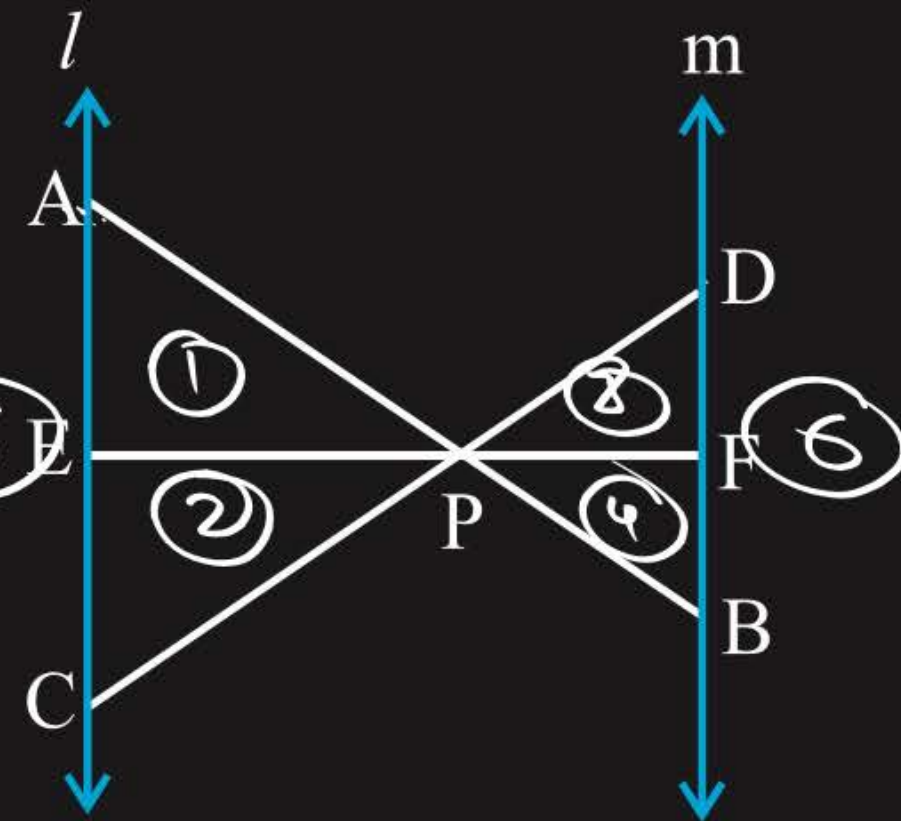
$\triangle APE \sim \triangle BPF$

$\triangle CEP \sim \triangle DFP, \triangle ACP \sim \triangle BDP$

$$\frac{AP}{BP} = \frac{PE}{PF} = \frac{AE}{BF}$$

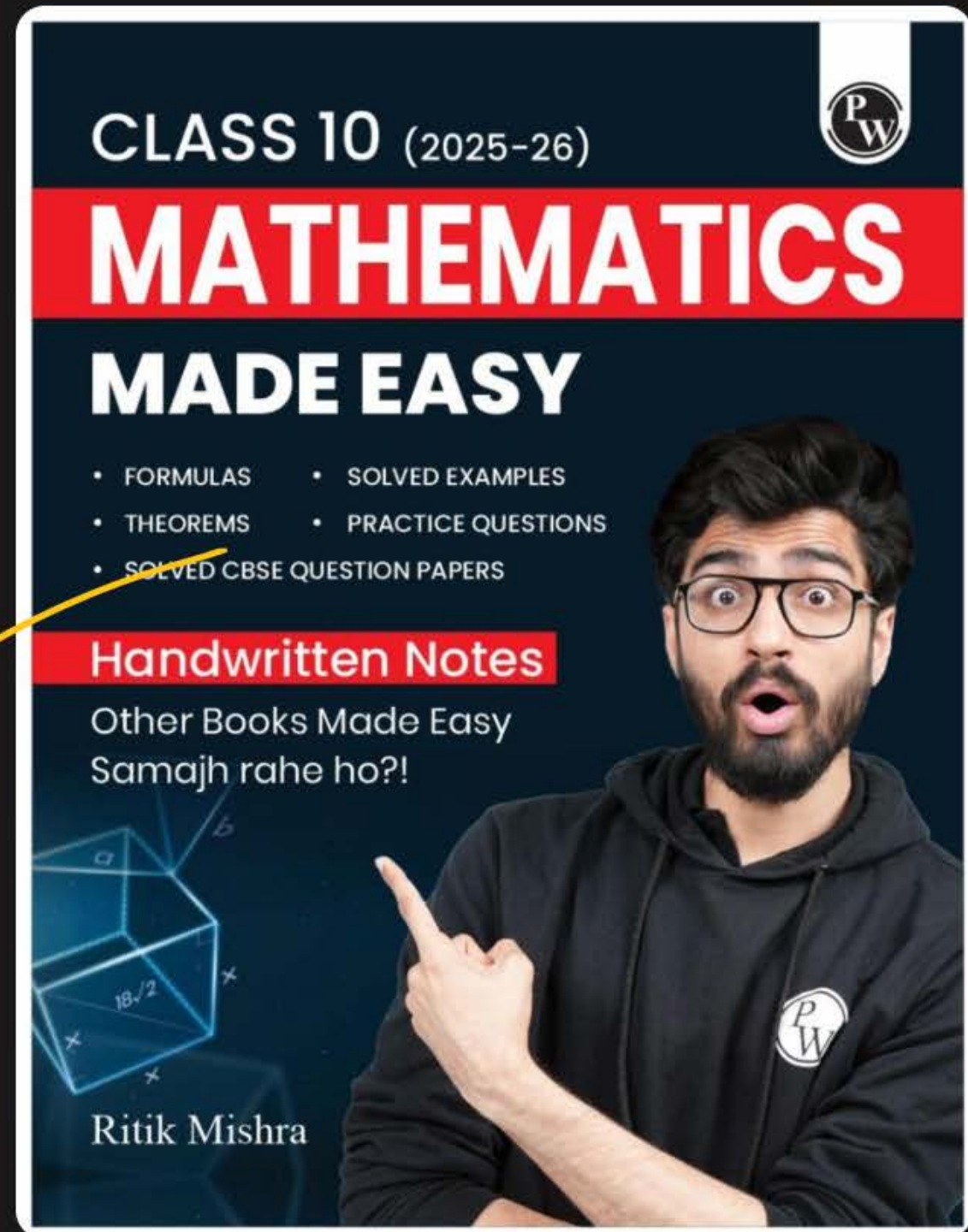
$$\frac{CE}{DF} = \frac{EP}{FP} = \frac{CP}{DP}$$

$$\frac{AC}{BD} = \frac{CP}{DP} = \frac{AP}{BP}$$

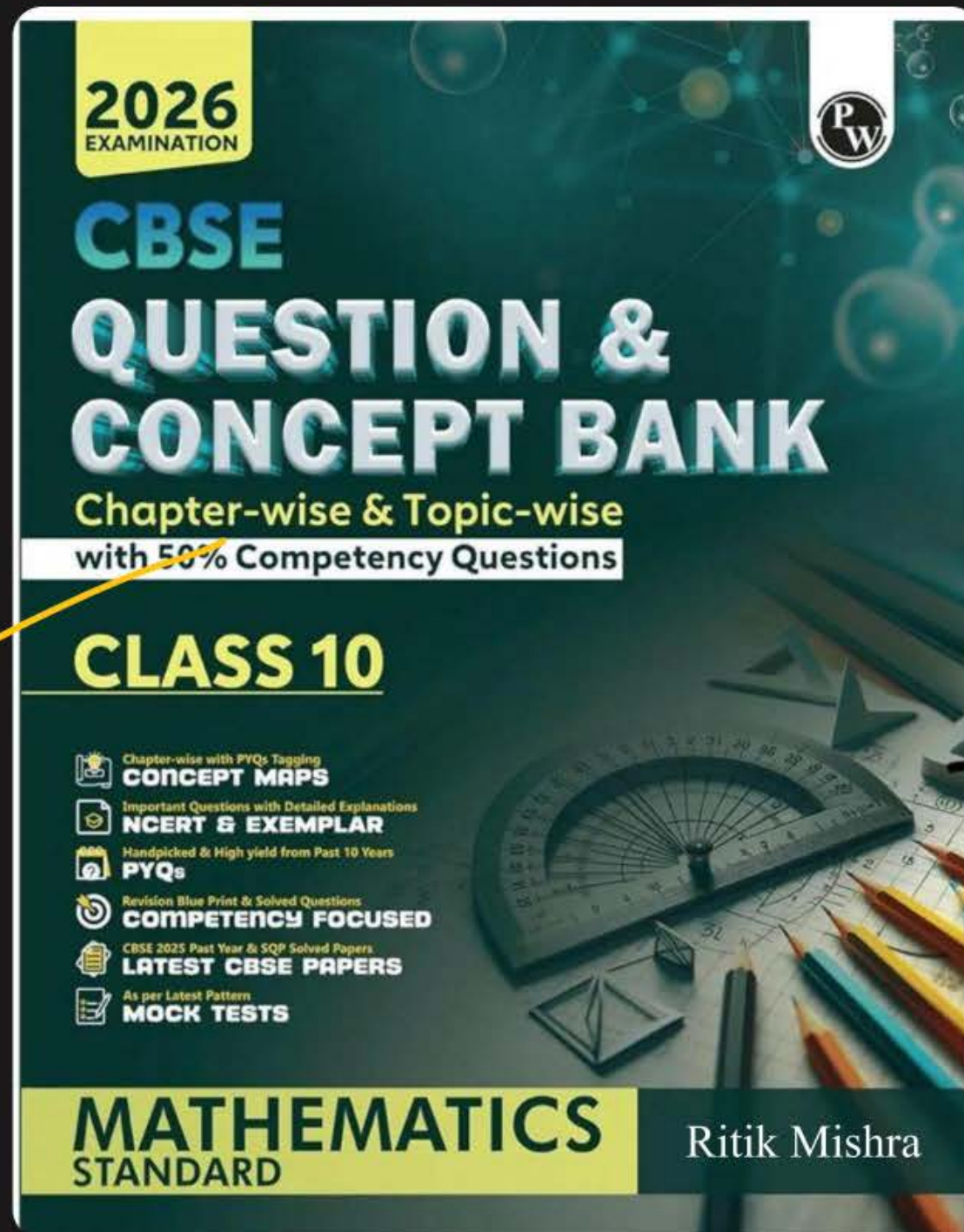


$$\frac{AE}{BF} = \frac{AC}{BD} = \frac{CE}{FD}$$

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**WORK HARD**

**DREAM BIG**

**NEVER GIVE UP**





# RITIK SIR

**JOIN MY OFFICIAL TELEGRAM CHANNEL**



# Thank You Babuaas ❤️👥



**Work Hard  
Dream Big  
Never Give Up**

**Thank**  
*You*