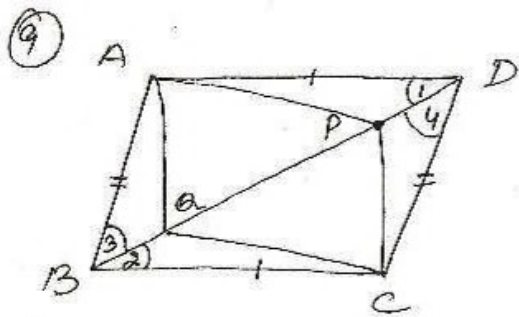


ex 8.1



To Show $\triangle APD \cong \triangle CPB$
 $AP = CP$
 $\triangle AOB \cong \triangle COD$
 $AO = CO$
 $\square APCO$ is a $\parallel gm$

Proof (i) $AD \parallel BC$
 $\Rightarrow \angle 1 = \angle 2$ (al. in Ls)

In $\triangle APD$ and $\triangle CPB$
 $AD = CB$ (opp sides of a $\parallel gm$)
 $\angle 1 = \angle 2$ (Proved)
 $DP = BP$ (given)
 $\therefore \triangle APD \cong \triangle CPB$ by SAS prop.

(ii) $AP = CP$ (cpct)

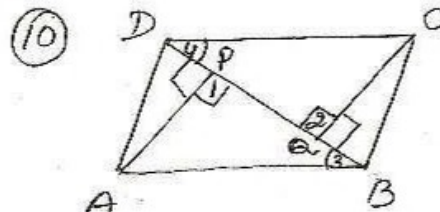
(iii) In $\triangle AOB$ and $\triangle COD$

$AB = CD$ (opp sides of $\parallel gm$)
 $\angle 3 = \angle 4$ (al. in Ls) ($AB \parallel DC$)
 $BO = DO$ (given)

$\therefore \triangle AOB \cong \triangle COD$ by SAS p.

$AO = CO$ (cpct)

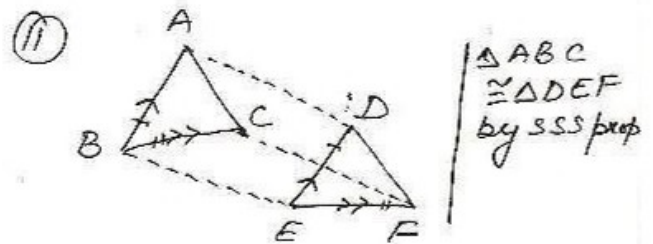
(iv) $\square APCO$ is a $\parallel gm$ [$AP = CO$, $AO = CP$]



To Show $\triangle APB \cong \triangle CPD$
 $AP = CP$

Proof In $\triangle APB$ and $\triangle CPD$
 $\angle 1 = \angle 2 = 90^\circ$
 $\angle 3 = \angle 4$ (al. in Ls) ($DC \parallel AB$)
 $AB = CD$ (opp sides of $\parallel gm$)
 $\therefore \triangle APB \cong \triangle CPD$ by AAS prop.

$AP = CP$ (cpct)



Proof $\square ABED$ is a $\parallel gm$
 $[AB \parallel DE]$
 $[AB = DE]$

$AD \parallel BE \dots$ (i) [opp. sides of $\parallel gm$]
 $AD = BE \dots$ (ii) [sides of $\parallel gm$]

$\square BEFC$ is a $\parallel gm$
 $[BC \parallel EF]$
 $[BC = EF]$

$CF \parallel BE \dots$ (iii)
 $CF = BE \dots$ (iv)

From (i), (iii) $AD \parallel CF$

From (ii), (iv) $AD = CF$

$\square ACFD$ is a $\parallel gm$ [$AD \parallel CF$, $AD = CF$]
 $AC = DF$ (cpct)
 $AB = DE$ (given)
 $BC = EF$ (given)