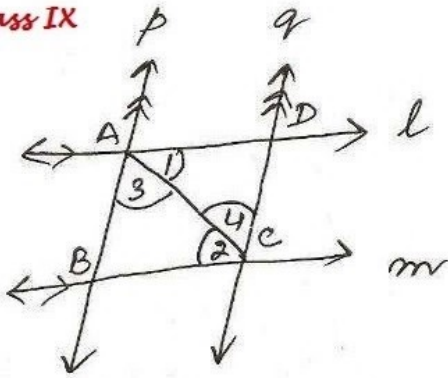


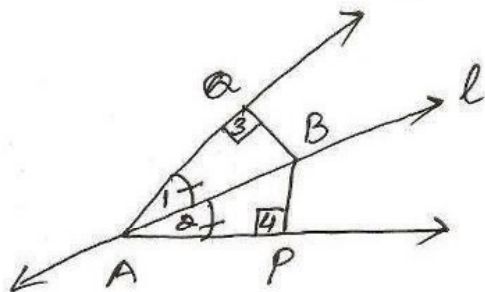
Ex 7.1 Class IX

④



To show $\triangle ABC \cong \triangle CDA$
 Proof In $\triangle ABC$ and $\triangle CDA$
 $\angle 1 = \angle 2$ (al. in l & m)
 $\angle 4 = \angle 3$ (al. in l & m)
 $AC = CA$ (common)
 $\therefore \triangle ABC \cong \triangle CDA$ by ASA prop

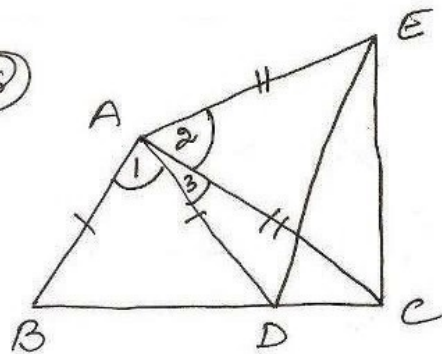
⑤



To show $\triangle APB \cong \triangle AQB$
 $BP = BQ$

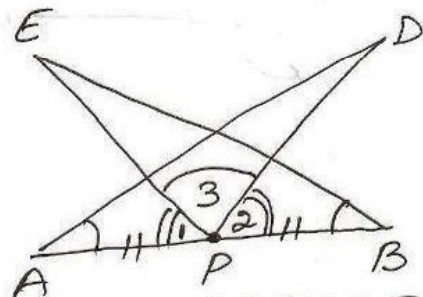
Proof In $\triangle APB$ and $\triangle AQB$
 $\angle 4 = \angle 3 = 90^\circ$
 $\angle 2 = \angle 1$ [bisector of $\angle QAP$]
 $AB = AB$ [common]
 $\therefore \triangle APB \cong \triangle AQB$ by AAS rule
 $BP = BQ$ (cpct)

⑥



to prove $BC = DE$
 proof $\angle 1 = \angle 2$ (given)
 $\angle 1 + \angle 3 = \angle 2 + \angle 4$
 $\Rightarrow \angle BAC = \angle DAE$
 In $\triangle BAC$ and $\triangle DAE$
 $AB = AD$ (given)
 $\angle BAC = \angle DAE$ (proved)
 $AC = AE$ (given)
 $\therefore \triangle BAC \cong \triangle DAE$ by SAS prop
 $BC = DE$ (cpct)

⑦



To Prove $\triangle DAP \cong \triangle EBP$
 $AD = BE$
 Proof $\angle 1 = \angle 2$ (given)
 $\angle 1 + \angle 3 = \angle 2 + \angle 3$
 $\Rightarrow \angle APD = \angle BPE$
 In $\triangle DAP$ and $\triangle EBP$
 $\angle A = \angle B$
 $AD = BE$
 $\angle APD = \angle BPE$
 $\therefore \triangle DAP \cong \triangle EBP$ (cpct)