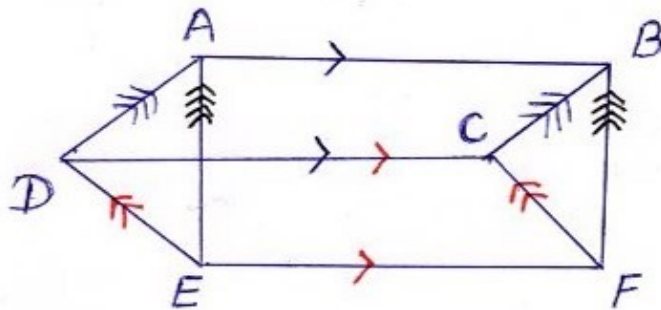


9-ncert ex 9.4 Q3

③



to prove $ar(\triangle ADE) = ar(\triangle BCF)$

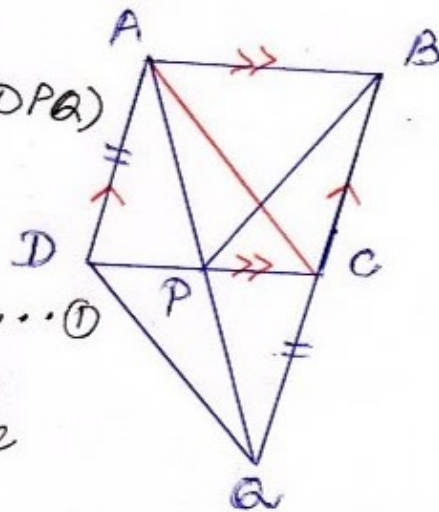
proof $AD = BC$ [opposite sides of a ||gm]
 $DE = CF$
 $AE = BF$

$\therefore \triangle ADE \cong \triangle BCF$ by SSS rule.

④ to prove $ar(\triangle BPC) = ar(\triangle DPA)$

proof

$ar(\triangle APC) = ar(\triangle BPC) \dots \textcircled{1}$
 (Δ s on same base and between same parallel lines)



$\square ABCD$ is a ||gm [$AD \parallel BC$
 $\Rightarrow AD \parallel CP$
 $AD = CP$ (given)]

$ar(\triangle DPA) \cong ar(\triangle CPA)$ by SSS rule

$\Rightarrow ar(\triangle DPA) = ar(\triangle CPA) \dots \textcircled{ii}$
 from \textcircled{i} and \textcircled{ii}

$ar(\triangle BPC) = ar(\triangle DPA)$

[$DP = CP$
 $AP = AP$
 $DA = AC$]