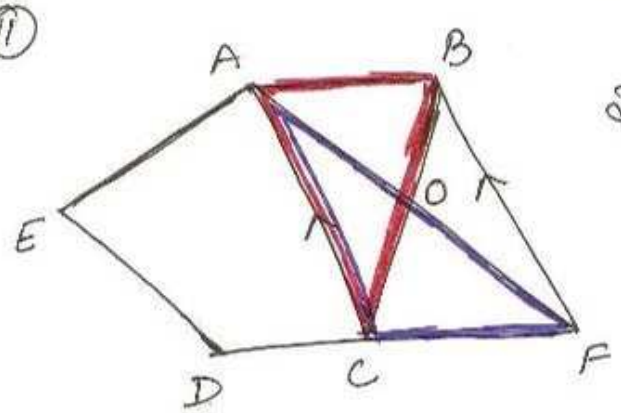
(11)



To prove $ar(\triangle ACB) = ar(\triangle ACF)$

$ar(\square AEDF) = ar(\text{pentagon } ABCDE)$

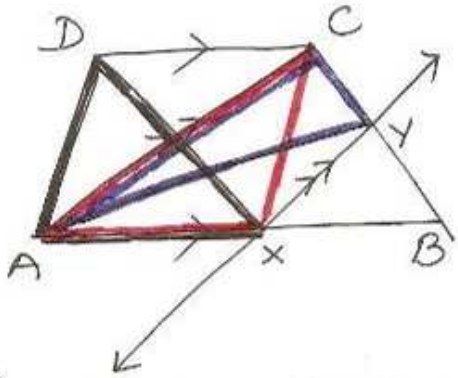
Proof $AC \parallel BF$

$ar(\triangle ACB) = ar(\triangle ACF)$ [$\triangle$s on same base and between same parallel lines]

$\Rightarrow ar(\triangle ACB) + ar(\square AEDC) = ar(\triangle ACF) + ar(\square AEDC)$

$\Rightarrow ar(\text{pentagon } ABCDE) = ar(\square AEDF)$

(12)



To prove $ar(ADX) = ar(ACY)$

Const - join CX

Proof $ar(\triangle ADX) = ar(\triangle CAX)$ ...(i) [$\triangle$s on same base and between same parallel lines]

NCERT Exemplar Solutions by Dev Anoop (Bathinda)

$ar(\triangle CAX) = ar(\triangle ACY)$ ...(ii) (do)

From (i), (ii)

$ar(\triangle ADX) = ar(\triangle ACY)$