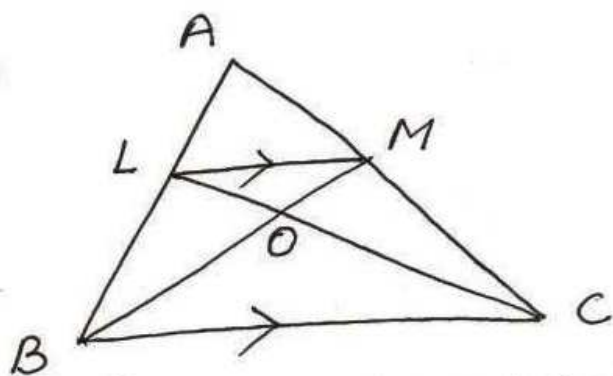


6



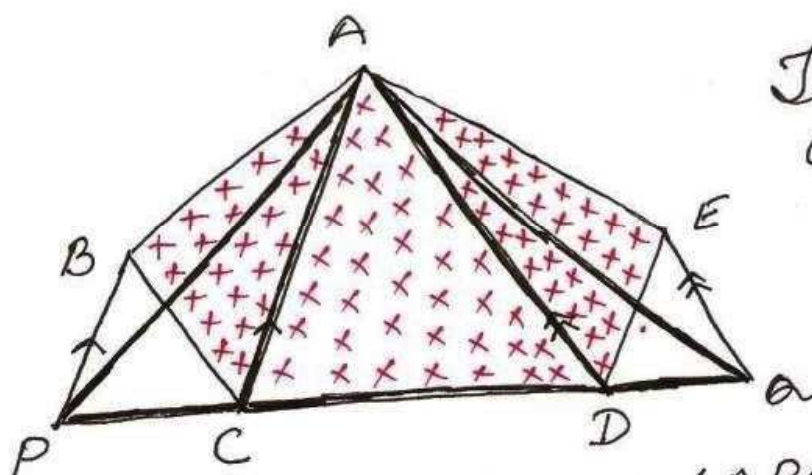
To prove $ar(\triangle LOB) = ar(\triangle MOC)$

Proof $ar(\triangle LBC) = ar(\triangle MCB)$ [Δ s on same base and between same parallel lines]

$$ar(\triangle LBC) - ar(\triangle OBC) = ar(\triangle MCB) - ar(\triangle OBC)$$

$$\Rightarrow ar(\triangle LOB) = ar(\triangle MOC)$$

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To Prove $ar(ABCDE) = ar(APQ)$

Proof $ar(\triangle BAC) = ar(\triangle PAC)$ ①
 $ar(\triangle EAD) = ar(\triangle QAD)$ ②
 $ar(\triangle ACD) = ar(\triangle ACD)$ ③

[Δ s on same base and between same parallel lines]

$$\text{①} + \text{②} + \text{③}$$

$$ar(\triangle BAC) + ar(\triangle EAD) + ar(\triangle ACD) = ar(\triangle PAC) + ar(\triangle QAD) + ar(\triangle ACD)$$

$$\Rightarrow ar(ABCDE) = ar(APQ)$$