



Draw $MN \parallel BC \parallel DA$

$$OB^2 + OD^2 = BN^2 + ON^2 + DM^2 + OM^2$$

$$= (CM^2 + OM^2) + (AN^2 + ON^2)$$

$$= OC^2 + OA^2 \quad \text{R.H.S}$$

($BN = CM$
 $DM = AN$)

$$OB^2 + OD^2 = OC^2 + OA^2$$

L.H.S = R.H.S
=