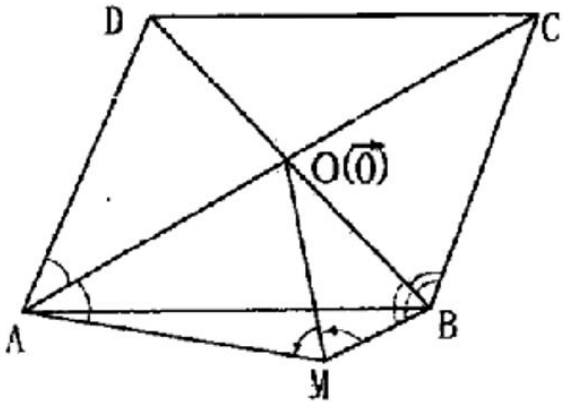


**Example 41** : In the parallelogram $ABCD$ , the rays $AM$ and $AD$ *are symmetrical* about $AC$ , $BM$ and $BC$ *are symmetrical* about $D$ , and O is the intersection of diagonals $AC$ and $BD$ . Prove: $\angle OMA = \angle BMO$ .

Proof: Suppose $O=0$ , $M=xA+yB$ , $T=\dfrac{\dfrac{M-0}{M-B}}{\dfrac{M-A}{M-0}}$ , $t_1=\dfrac{\dfrac{A-0}{A-M}}{\dfrac{A+B}{A-0}}$ , $t_2=\dfrac{\dfrac{B-0}{B+A}}{\dfrac{B-M}{B-0}}$ ,

$$T=\frac{x+y+1-t_1-t_2+(t_1-t_2)(x-y)}{x+y-1},$$

Explanation: Note $x+y-1\neq 0$ that it is equivalent to that $M$ is not on the straight line $AB$ .

If $M$ *is on* the straight line $AB$ , the conclusion does not hold. Therefore, this question requires an additional condition $AB \neq BC$ to ensure that $M$ is on the straight line $AB$ .