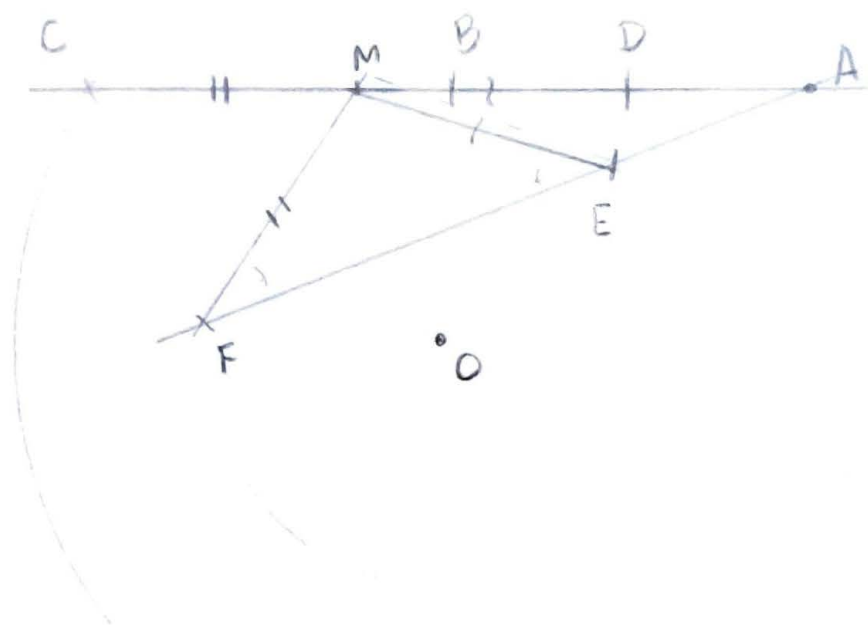(USAMO 1998) - P2

$AE \cdot AF = AB^2 = (2AB)\left(\tfrac{1}{2}AB\right) = AC \cdot AD$

$\Rightarrow$ (E, F, C, D) is cyclic, with center M. $\Rightarrow$

$\Rightarrow$ M is mid point of CD $\Rightarrow$ $\dfrac{AM}{MC} = \dfrac{5}{3}$.