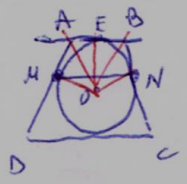
1.6 8
6

א.



AEOM דלתון

$\sphericalangle AMO = 90^\circ = \sphericalangle BNO$

$\sphericalangle NMO = \sphericalangle MNO$

$\sphericalangle AMO - \sphericalangle NMO = \sphericalangle BNO - \sphericalangle MNO$

$\sphericalangle AMN = \sphericalangle BNM = \alpha$

(טרפז שוש) $\sphericalangle MAB = \beta = \sphericalangle ABN$

$2\alpha + 2\beta = 360^\circ \rightarrow \alpha + \beta = 180^\circ \xrightarrow[\text{דדדות}]{\text{חד}} AB \parallel MN$

ב.

$\triangle AOB$ שוש ← E אמצע AB

נוחד אבה מ A ל DC

מרובע חוסם

$AB + CD = AD + BC = 2AD$

$AD = \frac{a+b}{2}$ $\qquad AM = AE = \frac{b}{2}$

$\frac{AM}{AD} = \frac{ML}{DH} \rightarrow ML = \frac{\frac{b}{2} \cdot \frac{a-b}{\cancel{2}}}{\frac{a+b}{\cancel{2}}} = \frac{b(a-b)}{2(a+b)}$

$MN = 2MN + AB = \frac{b(a-b)}{a+b} + b = \frac{2ab}{a+b}$

ג. יצר זווית $\triangle AMO$ $\left(\frac{1}{2}\sphericalangle A + \frac{1}{2}\sphericalangle D = 90^\circ\right) \rightarrow \triangle AMO \sim \triangle MOD$

$MO^2 = AM \cdot DM \rightarrow R = MD = \sqrt{\frac{b}{2} \cdot \frac{a}{2}} = \frac{1}{2}\sqrt{ab}$