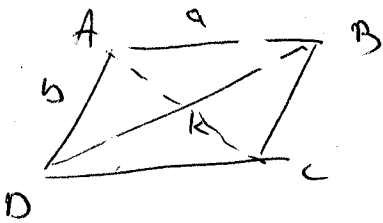


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cos KA (לכאן?)

$$k^2 = a^2 + b^2 - 2ab \cos KA$$

$$\cos KA = \frac{k^2 - a^2 - b^2}{-2ab}$$

לפי הוקוסוס $k^2 = b^2 + a^2 - 2ab \cdot \cos KD$

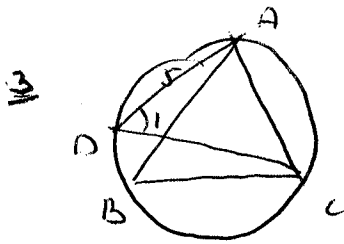
$$KD = 180 - KA$$

$$\cos KD = \cos(180 - KA) = -\cos KA = \frac{k^2 - a^2 - b^2}{2ab}$$

לפי הוקוסוס $k^2 = b^2 + a^2 - 2ab \cdot \left(\frac{k^2 - a^2 - b^2}{2ab}\right) = b^2 + a^2 - k^2 + a^2 + b^2$

$$= 2b^2 + 2a^2 - k^2$$

לפי הוקוסוס $= \sqrt{2b^2 + 2a^2 - k^2}$



(לפי חוק סינוס) $\angle D = \angle B = 60^\circ$

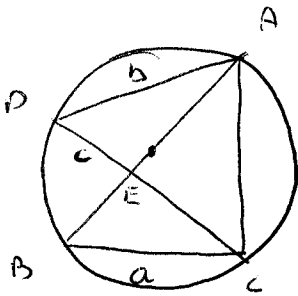
$$AC^2 = r^2 + r^2 - 2 \cdot r \cdot r \cdot \cos 60 = 4r^2$$

$$AC = 2r$$

$$2r = \frac{AC}{\sin \angle D} = \frac{2}{\sin 60}$$

$$R = \frac{2}{2 \sin 60} = 4 \cdot 0.4$$

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(לפי חוק סינוס) $\angle C = 90^\circ$

$$\frac{a}{AB} = \cos \angle B, \quad AB = 2R$$

$$\cos \angle B = \frac{a}{2R}$$

$\angle B = \angle D$ (לפי חוק סינוס)

$$AE^2 = b^2 + c^2 - 2bc \cdot \cos \angle D$$

$$AE^2 = b^2 + c^2 - 2bc \cdot \cos \angle B = b^2 + c^2 - 2bc \cdot \frac{a}{2R} = b^2 + c^2 - \frac{bca}{R}$$

$$AE = \sqrt{b^2 + c^2 - \frac{bca}{R}}$$