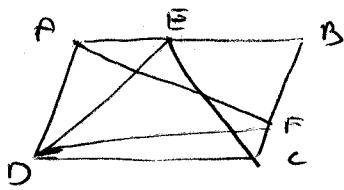


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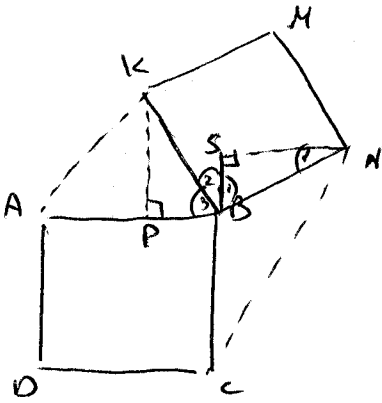
h_1 גובה AD - F - N

$$S_{AFD} = \frac{h_1 \cdot AD}{2} = \frac{1}{2} (h_1 \cdot AD) = \frac{1}{2} S_{ABCD}$$

h_2 גובה AD - E - N

$$S_{EDC} = \frac{h_2 \cdot DC}{2} = \frac{1}{2} (h_2 \cdot DC) = \frac{1}{2} S_{ABCD}$$

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BC גובה PN - N

AB גובה KN - N

$\angle N_1 = \alpha$ (נניח)

$\angle A_1 = 90 - \alpha$

$\angle B_2 = \alpha$

$\angle B_2 = 90 - \alpha$

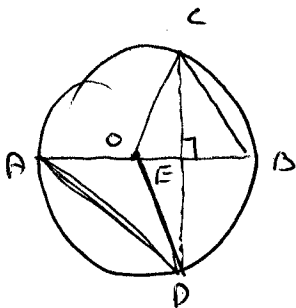
$$\left. \begin{aligned} \angle N_1 &= \angle B_3 \\ \angle B &= \angle N \\ \angle P &= \angle S = 90 \end{aligned} \right\}$$

$\triangle KPB \cong \triangle NSB$

$\implies \angle P = \angle N$

$$S_{AKB} = \frac{AB \cdot KP}{2} = \frac{BC \cdot SN}{2} = S_{BNC}$$

(כי) $AB = BC$



$CE = ED \leftarrow$ כי הן גובה וזווית ישרה

$$S_{AED} = \frac{AE \cdot DE}{2} = \frac{EB \cdot EC}{2} = S_{ECB}$$

(כי) $AE = EB$

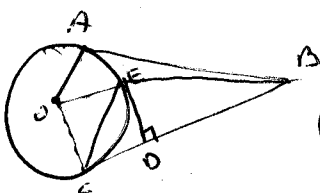
$$S_{AOD} = 78 = \frac{AE \cdot DE}{2} = \frac{13 \cdot DE}{2} \implies DE = 12$$

$\implies CD = 24$

$$S_{OCE} = 30 = \frac{EC \cdot OE}{2} = \frac{OE \cdot 12}{2} \implies OE = 5$$

$BE = OB - OE = 13 - 5 = 8$

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(כי) $AB = CB$ (כי) $\angle AOB = \angle COB$

$\angle AOB = \angle COB \leftarrow$ כי הן זוויות ישרות

(כי) $CD = DE$ (כי) $\angle CDE = \angle CED$

$\angle CDE = \angle CED \leftarrow$ כי הן זוויות ישרות

$$S_{AOB} = \frac{AB \cdot AO}{2} = \frac{AB \cdot r}{2} = \frac{CB \cdot r}{2} = \frac{CB \cdot ED}{2} = S_{CEB}$$

$$S_{AOB} = 30 = \frac{AB \cdot 5}{2} \implies AB = 12, \quad OB = CB - CD = 12 - 5 = 7$$

$$S_{EOB} = \frac{EO \cdot OB}{2} = \frac{5 \cdot 7}{2} = 17\frac{1}{2}$$

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