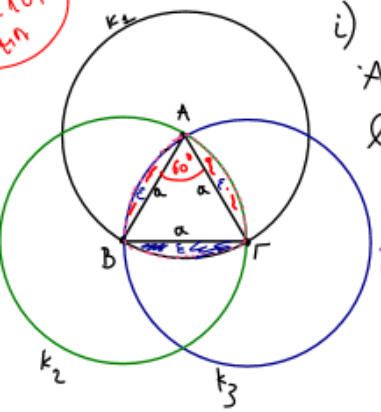
$A\hat{B}\Gamma$ – ισόπλ., $k_1(A,a)$, $k_2(B,a)$, $k_3(\Gamma,a)$, i) $\Pi_{AB\Gamma}$, ii) $(AB\Gamma)$



ΛΥΣΗ

i) $A\hat{B}\Gamma$ – ισόπλευρο, $\hat{A}=\hat{B}=\hat{\Gamma}=60°$ (ΑΒΓ – καμπυλόγραμμο τριγώνου)

Άρα $\overset{\frown}{B\Gamma}=\overset{\frown}{AB}=\overset{\frown}{A\Gamma}=60°$

$$\left.\begin{aligned} \ell_{\overset{\frown}{B\Gamma}} &= \frac{\pi\cdot a\cdot 60°}{180°}=\frac{a\pi}{3} \\ \ell_{\overset{\frown}{B\Gamma}} &= \ell_{\overset{\frown}{AB}}=\ell_{\overset{\frown}{A\Gamma}}=\frac{a\pi}{3} \end{aligned}\right\} \Pi_{AB\Gamma}=3\cdot\frac{a\pi}{3}=a\pi$$

ii) $AB\Gamma$ – καμπυλόγραμμο τριγώνου

$$(AB\Gamma)=(A\hat{B}\Gamma)+3\mathcal{E} \quad (1)$$

$$(A\hat{B}\Gamma)=\frac{a^2\sqrt{3}}{4} \quad (2)$$

$$\mathcal{E}=(A\overset{\frown}{B\Gamma})-(A\hat{B}\Gamma)$$

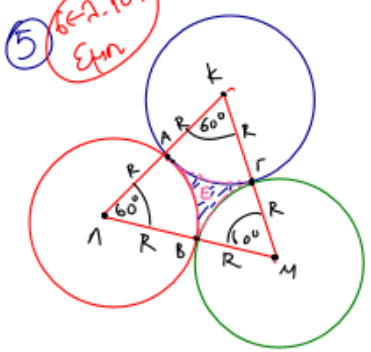
$$(A\overset{\frown}{B\Gamma})=\frac{\pi a^2\cdot 60°}{360°}=\frac{\pi a^2}{6}$$

$$\mathcal{E}=\frac{a^2\sqrt{3}}{4}+\frac{\pi a^2}{6} \quad (3)$$

(1),(2),(3): $(AB\Gamma)=\frac{a^2\sqrt{3}}{4}+3\left(\frac{a^2\sqrt{3}}{4}+\frac{\pi a^2}{6}\right)=$

$=\frac{a^2\sqrt{3}}{4}-3\cdot\frac{a^2\sqrt{3}}{4}+\frac{\pi a^2}{6}=\frac{\pi a^2}{6}-\frac{1}{2}a^2\sqrt{3}$

5 σελ. 107 Εμπ



i) $\Pi_{AB\Gamma}$, ii) E (καμπυλόγραμμου τριγώνου $AB\Gamma$

ΛΥΣΗ

$K\hat{\Lambda}M$ – ισόπλευρο

i) $\Pi_{AB\Gamma}=3\ell_{\overset{\frown}{AB}}$ $\left(\ell_{\overset{\frown}{AB}}=\ell_{\overset{\frown}{A\Gamma}}=\ell_{\overset{\frown}{B\Gamma}}\right)$

$$\ell_{\overset{\frown}{AB}}=\frac{\pi\cdot R\cdot 60°}{180°}=\frac{\pi R}{3}$$

Άρα $\Pi_{AB\Gamma}=3\cdot\frac{\pi R}{3}=\pi R$

ii) $E=(K\hat{\Lambda}M)-3(\Lambda\overset{\frown}{AB})$

$\left((\Lambda\overset{\frown}{AB})=(K\overset{\frown}{A\Gamma})=(M\overset{\frown}{B\Gamma})\right)$

$$(K\hat{\Lambda}M)=\frac{(2R)^2\sqrt{3}}{4}=R^2\sqrt{3}$$

$$(\Lambda\overset{\frown}{AB})=\frac{\pi\cdot R^2\cdot 60°}{360°}=\frac{\pi R^2}{6}$$

$$E=R^2\sqrt{3}-3\frac{\pi R^2}{6}=R^2\sqrt{3}-\frac{\pi R^2}{2}$$