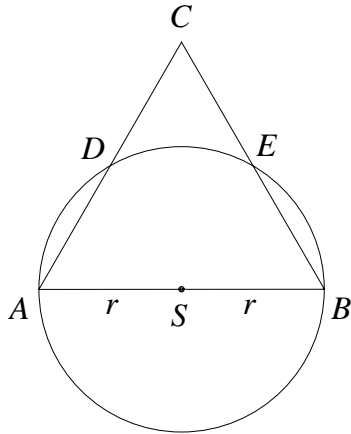


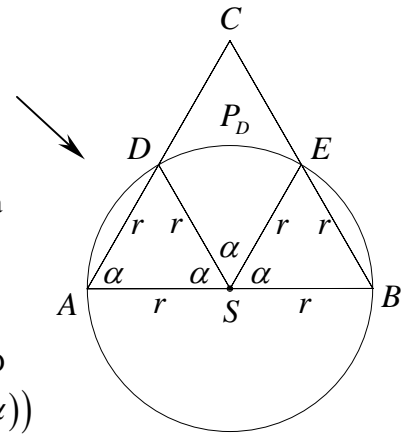
M-12. Nad promjerom kruga polumjera $\sqrt{6}$ konstruiran je jednakostranični trokut sa stranicom duljine $2\sqrt{6}$. Površina dijela trokuta izvan kruga je

- A. $\pi - \sqrt{3}$ B. $3\sqrt{3} - \pi$ C. $6 - \pi$ D. $2\sqrt{3} - \pi$ E. $\sqrt{3} + \pi$

Nacrtajmo prvo tu sliku:



Spojimo sada točke D i S te S i E
Dobili smo dva istostranična trokuta
kojima je duljina stranice $= r$
i jedan kružni isječak s $\alpha = 60^\circ$
Površinu P_D djela trokuta izvan kruga
dobijemo tako da od površine
trokuta ABC odbijemo
površine trokuta ASD, SBE i
površinu $P(\alpha)$ kružnog isječka ESD
$$P_D = P_{\triangle ABC} - (P_{\triangle ASD} + P_{\triangle SBE} + P(\alpha))$$



stranica $\triangle ABC = 2r$

$$P_{\triangle ABC} = \frac{(2r)^2 \sqrt{3}}{4}$$

$$P_{\triangle ABC} = \frac{(2\sqrt{6})^2 \sqrt{3}}{4}$$

$$P_{\triangle ABC} = \frac{2^2 \sqrt{6^2} \sqrt{3}}{4}$$

$$P_{\triangle ABC} = 6\sqrt{3}$$

stranica $\triangle ASD = r$

$$P_{\triangle ASD} = P_{\triangle SBE} = \frac{r^2 \sqrt{3}}{4}$$

$$P_{\triangle ASD} = P_{\triangle SBE} = \frac{\sqrt{6^2} \sqrt{3}}{4}$$

$$P_{\triangle ASD} = P_{\triangle SBE} = \frac{6\sqrt{3}}{4}$$

$$P_{\triangle ASD} = P_{\triangle SBE} = \frac{3\sqrt{3}}{2}$$

površina $P(\alpha)$ kružnog isječka ESD

$$P(\alpha) = \frac{r^2 \cdot \pi \cdot \alpha}{360^\circ}$$

$$P(60^\circ) = \frac{\sqrt{6^2} \cdot \pi \cdot 60^\circ}{360^\circ} = \frac{6 \cdot \pi}{6} = \pi$$

$$P(60^\circ) = \pi$$

$$P_D = P_{\triangle ABC} - (P_{\triangle ASD} + P_{\triangle SBE} + P(\alpha))$$

$$P_D = 6\sqrt{3} - \left(\frac{3\sqrt{3}}{2} + \frac{3\sqrt{3}}{2} + \pi \right)$$

$$P_D = 6\sqrt{3} - \frac{6\sqrt{3}}{2} - \pi$$

$$P_D = 6\sqrt{3} - 3\sqrt{3} - \pi$$

$$P_D = 3\sqrt{3} - \pi$$