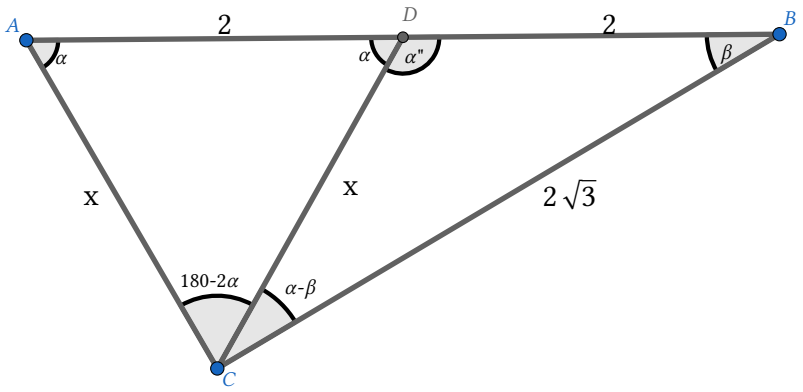
022-PISAREK



$|CD| = |AC| \quad |AD| = |DB| \quad |AB| = 4 \quad |BC| = 2\sqrt{3}$

wyznaczyć α, β, γ

$\alpha, \beta, \gamma \in (0°, 180°)$

niech $x = |AC| \quad x \in \mathbb{R}_+$

z twierdzenia cosinusów dla $\triangle DBC$ i $\triangle ABC$:

$$\begin{cases} x^2 = 4 + 12 - 8\sqrt{3}\cos\beta \\ x^2 = 16 + 12 - 16\sqrt{3}\cos\beta \end{cases}$$

$x^2 = 4$

$x = 2 \vee x = -2 \notin \mathbb{R}_+$

$x = 2$, zatem $\alpha = 60°, \beta = 30°, \gamma = 90°$