

Zadatak 9. Dijagonala jednakokračnog trapeza dugačka je 75 cm i dijeli unutarnji kut trapeza na dva dijela od 36° i 80° . Kolike su duljine stranica trapeza?

Rješenje.

$$d = 75 \text{ cm}$$

$$\beta_1 = 36^\circ$$

$$\beta_2 = 80^\circ$$

$$a, b, c = ?$$

$$\beta = \beta_1 + \beta_2 = 116^\circ$$

$$\alpha = 180^\circ - \beta = 64^\circ$$

$$\triangle ABC \quad \frac{d}{\sin \alpha} = \frac{a}{\sin \beta_2} \implies a = \frac{d \sin \beta_2}{\sin \alpha} = 82.18 \text{ cm}$$

$$\triangle ACD \quad \frac{d}{\sin \beta} = \frac{b}{\sin \beta_1} \implies b = \frac{d \sin \beta_1}{\sin \beta} = 49.05 \text{ cm}$$

$$\alpha_2 = 180^\circ - \beta - \beta_1 = 28^\circ$$

$$c^2 = b^2 + d^2 - bd \cos \alpha_2 \implies c = 39.18 \text{ cm.}$$

