**Zadatak 11.** Površina trokuta jednaka je $P = 30.2\,\text{cm}^2$, zatim je $a \cdot b = 64\ cm^2$, te $\alpha = 42°25'$. Odredi duljine stranica i kutove trokuta.

*Rješenje.*

$$P = 30.2\,\text{cm}^2$$

$$a \cdot b = 64\,\text{cm}^2$$

$$\alpha = 42°25'$$

$$\overline{\phantom{a, b, c, \beta, \gamma =?}}$$

$$a,\ b,\ c,\ \beta,\ \gamma =?$$

$$\sin \gamma = \frac{2P}{ab} = 0.94375$$

$$\gamma_1 = 70°41', \qquad \gamma_2 = 180° - \gamma_1 = 109°19'$$

$1° \underline{\gamma_1 = 70°41'}$

$$\beta_1 = 180° - \alpha - \gamma_1 = 66°54'$$

$$a_1 = \frac{b_1 \sin \alpha}{\sin \beta_1} = 6.85\,\text{cm}$$

$$b_1 = \frac{64}{a_1} = 9.34\,\text{cm}$$

$$c_1 = \frac{a_1 \sin \gamma_1}{\sin \alpha} = 9.58\,\text{cm}$$

$2° \underline{\gamma_2 = 109°19'}$

$$\beta_2 = 180° - \alpha - \gamma_2 = 28°16'$$

$$a_2 = \frac{b_2 \sin \alpha}{\sin \beta_2} = 9.55\,\text{cm}$$

$$b_2 = \frac{64}{a_2} = 9.34\,\text{cm}$$

$$c_2 = \frac{a_2 \sin \gamma_2}{\sin \alpha} = 13.36\,\text{cm}$$