Zadatak 10. Razlika duljina dviju stranica trokuta jednaka je 3.2 cm, a kutovi nasuprot tim stranicama iznose 52° i 67°. Kolika je duljina treće stranice tog trokuta?

Rješenje.

$b - a = 3.2\text{cm} \implies b = a + 3.2\text{cm}$

$\alpha = 52^\circ$

$\beta = 67^\circ$

$c = ?$

$\gamma = 180^\circ - \alpha - \beta = 180^\circ - 52^\circ - 67^\circ = 61^\circ$

$$\frac{a}{b} = \frac{\sin\alpha}{\sin\beta}$$

$$\frac{a}{a+3.2} = \frac{\sin 52^\circ}{\sin 67^\circ}$$

$$\frac{a}{a+3.2} = 0.85606366$$

$$a = 0.85606366a + 2.739403711$$

$$a = 19.03\text{cm}$$

$$c = \frac{a \cdot \sin\gamma}{\sin\alpha} = \frac{19.03 \cdot \sin 61^\circ}{\sin 52^\circ} = 21.12\text{cm}.$$