Zadatak 14. Izračunaj površinu trokuta $\triangle ABC$ ako je $a - b = 20$ cm, $c = 40$ cm i $\gamma = 60°$.

Rješenje.

$$a - b = 20\,\text{cm}$$
$$c = 40\,\text{cm}$$
$$\gamma = 60°$$

$$P = ?$$
$$c^2 = a^2 + b^2 - 2ab\cos\gamma$$
$$c^2 = (a-b)^2 + 2ab - 2ab\cos\gamma$$
$$c^2 = (a-b)^2 + 2ab(1 - \cos\gamma)$$
$$1600 = 400 + 2ab\left(1 - \frac{1}{2}\right)$$
$$1200 = 2ab \cdot \frac{1}{2}$$
$$ab = 1200$$
$$P = \frac{ab \cdot \sin\gamma}{2} = \frac{1200 \cdot \frac{\sqrt{3}}{2}}{2} = 300\sqrt{3}\,\text{cm}^2.$$