

VAJA 9 – DEL 1: SFERNA TRIGONOMETRIJA – SPLOŠNI SFERNI TRIKOTNIK – REŠITVE

**Naloga 1**

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned} a &= 125^\circ 13' 14'' \\ \alpha &= 129^\circ 43' 21'' \end{aligned}$$

$$\begin{aligned} b &= 53^\circ 58' 35'' \\ \beta &= 49^\circ 35' 36'' \end{aligned}$$

$$\begin{aligned} c &= 96^\circ 7' 54'' \\ \gamma &= 69^\circ 24' 33'' \end{aligned}$$

**Naloga 2**

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned} \alpha &= 81^\circ 14' 11'' \\ a &= 79^\circ 58' 59'' \end{aligned}$$

$$\begin{aligned} \beta &= 93^\circ 24' 41'' \\ b &= 95^\circ 56' 40'' \end{aligned}$$

$$\begin{aligned} \gamma &= 104^\circ 58' 34'' \\ c &= 105^\circ 43' 52'' \end{aligned}$$

**Naloga 3**

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned} b &= 120^\circ 31' 37'' \\ a &= 112^\circ 15' 8'' \end{aligned}$$

$$\begin{aligned} c &= 76^\circ 43' 29'' \\ \beta &= 117^\circ 51' 45'' \end{aligned}$$

$$\begin{aligned} \alpha &= 108^\circ 12' 50'' \\ \gamma &= 87^\circ 19' 11'' \end{aligned}$$

**Naloga 4**

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned} b &= 95^\circ 1' 22'' \\ a &= 84^\circ 15' 45'' \end{aligned}$$

$$\begin{aligned} \alpha &= 87^\circ 13' 2'' \\ c &= 152^\circ 54' 34'' \end{aligned}$$

$$\begin{aligned} \gamma &= 152^\circ 47' 48'' \\ \beta &= 89^\circ 48' 59'' \end{aligned}$$

**Naloga 5**

Reši sferni trikotnik, ki je dan z:

$$b = 5^\circ 14' 3''$$

$$c = 38^\circ 47' 12''$$

$$\beta = 48^\circ 13' 59''$$

**Trikotnik ne obstaja.**

**Naloga 6**

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned} b &= 55^\circ 43' 15'' \\ a &= 58^\circ 8' 28'' \end{aligned}$$

$$\begin{aligned} c &= 38^\circ 25' 12'' \\ \alpha &= 80^\circ 17' 46'' \end{aligned}$$

$$\begin{aligned} \beta &= 73^\circ 31' 29'' \\ \gamma &= 46^\circ 9' 5'' \end{aligned}$$

### Naloga 7

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned}a &= 61^\circ 3' 37'' \\b_1 &= 84^\circ 57' 44'' \\b_2 &= 30^\circ 44' 30''\end{aligned}$$

$$\begin{aligned}c &= 35^\circ 57' 22'' \\ \alpha_1 &= 45^\circ 6' 27'' \\ \alpha_2 &= 134^\circ 53' 33''\end{aligned}$$

$$\begin{aligned}\gamma &= 28^\circ 22' 49'' \\ \beta_1 &= 126^\circ 15' 19'' \\ \beta_2 &= 24^\circ 26' 38''\end{aligned}$$

### Naloga 8

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned}a &= 59^\circ 33' 17'' \\ \text{Trikotnik ne obstaja.}\end{aligned}$$

$$c = 165^\circ 17' 28''$$

$$\gamma = 45^\circ 41' 1''$$

### Naloga 9

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned}c &= 81^\circ 3' 8'' \\ \text{Trikotnik ne obstaja.}\end{aligned}$$

$$\alpha = 73^\circ 20' 40''$$

$$\gamma = 11^\circ 39' 13''$$

### Naloga 10

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned}b &= 71^\circ 31' 23'' \\ a &= 168^\circ 42' 20''\end{aligned}$$

$$\begin{aligned}\alpha &= 170^\circ 0' 5'' \\ c &= 102^\circ 34' 18''\end{aligned}$$

$$\begin{aligned}\beta &= 57^\circ 13' 33'' \\ \gamma &= 59^\circ 54' 43''\end{aligned}$$

### Naloga 11

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned}b &= 22^\circ 53' 53'' \\ \alpha_1 &= 35^\circ 49' 39'' \\ \alpha_2 &= 144^\circ 10' 21''\end{aligned}$$

$$\begin{aligned}\alpha &= 89^\circ 3' 44'' \\ c_1 &= 28^\circ 44' 22'' \\ c_2 &= 152^\circ 3' 10''\end{aligned}$$

$$\begin{aligned}\beta &= 41^\circ 39' 15'' \\ \gamma_1 &= 55^\circ 13' 5'' \\ \gamma_2 &= 126^\circ 49' 4''\end{aligned}$$

### Naloga 12

Reši sferni trikotnik, ki je dan z:

$$\begin{aligned}c &= 17^\circ 52' 1'' \\ \text{Trikotnik ne obstaja.}\end{aligned}$$

$$\beta = 66^\circ 30' 14''$$

$$\gamma = 138^\circ 19' 27''$$