

**VAJA 9: SFERNA TRIGONOMETRIJA – NALOGE**

2024/2025

**Naloga 1**

Reši sferne trikotnike, podane z:

A	$a = 125^{\circ} 13' 14''$	$b = 53^{\circ} 58' 35''$	$c = 96^{\circ} 7' 54''$
B	$\alpha = 81^{\circ} 14' 11''$	$\beta = 93^{\circ} 24' 41''$	$\gamma = 104^{\circ} 58' 34''$
C	$b = 120^{\circ} 31' 37''$	$c = 76^{\circ} 43' 29''$	$\alpha = 108^{\circ} 12' 50''$
D	$b = 95^{\circ} 1' 22''$	$\alpha = 87^{\circ} 13' 2''$	$\gamma = 152^{\circ} 47' 48''$
E	$b = 5^{\circ} 14' 3''$	$c = 38^{\circ} 47' 12''$	$\beta = 48^{\circ} 13' 59''$
F	$b = 55^{\circ} 43' 15''$	$c = 38^{\circ} 25' 12''$	$\beta = 73^{\circ} 31' 29''$
G	$a = 61^{\circ} 3' 37''$	$c = 35^{\circ} 57' 22''$	$\gamma = 28^{\circ} 22' 49''$
H	$a = 59^{\circ} 33' 17''$	$c = 165^{\circ} 17' 28''$	$\gamma = 45^{\circ} 41' 1''$
I	$c = 81^{\circ} 3' 8''$	$\alpha = 73^{\circ} 20' 40''$	$\gamma = 11^{\circ} 39' 13''$
J	$b = 71^{\circ} 31' 23''$	$\alpha = 170^{\circ} 0' 5''$	$\beta = 57^{\circ} 13' 33''$
K	$b = 22^{\circ} 53' 53''$	$\alpha = 89^{\circ} 3' 44''$	$\beta = 41^{\circ} 39' 15''$
L	$c = 17^{\circ} 52' 1''$	$\beta = 66^{\circ} 30' 14''$	$\gamma = 138^{\circ} 19' 27''$

**Naloga 2**

Reši pravokotna sferna trikotnika, podana z:

A	$a = 45^{\circ} 45' 47''$	$\alpha = 60^{\circ} 15' 2''$	$\gamma = 90^{\circ} 0' 0''$
B	$a = 61^{\circ} 17' 20''$	$c = 33^{\circ} 22' 39''$	$\beta = 90^{\circ} 0' 0''$

**Naloga 3**

Reši pravostranična sferna trikotnika, podana z:

A	$a = 41^{\circ} 43' 13''$	$c = 90^{\circ} 0' 0''$	$\beta = 70^{\circ} 31' 5''$
B	$b = 90^{\circ} 0' 0''$	$c = 123^{\circ} 36' 58''$	$\alpha = 49^{\circ} 11' 8''$

**Naloga 4**

Iz Ljubljane ( $\varphi = 46^{\circ} 5' 30'' S$ ,  $\lambda = 14^{\circ} 32' 15'' V$ ) letimo v Panamo ( $\varphi = 8^{\circ} 58' 0'' S$ ,  $\lambda = 79^{\circ} 32' 0'' Z$ ) po ortodromi, nazaj v Ljubljano pa se vračamo najprej po vzporedniku nato po poldnevniku. Kolikšni sta dolžini poti (v kilometrih) tja in nazaj, če v obeh primerih letimo na višini 7 km. Polmer Zemlje znaša 6371 km.