

VAJA 5: ZUNANJI UREZ

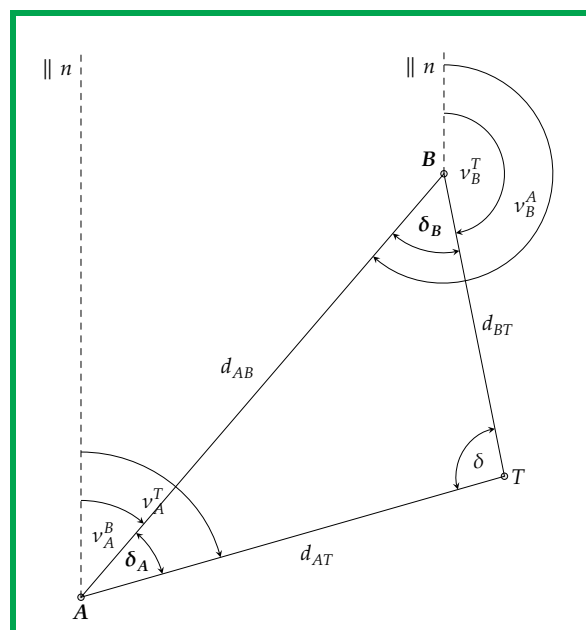
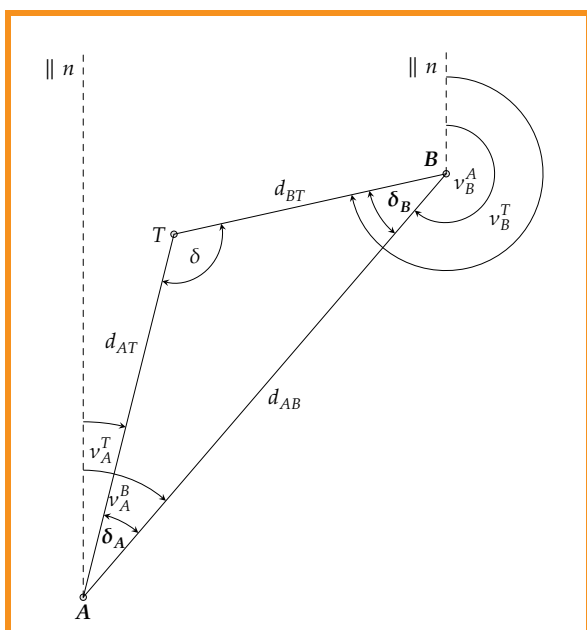
2024/2025

ZUNANJI UREZ

dano:  $A(e_A, n_A), B(e_B, n_B)$

merjeno:  $\delta_A, \delta_B$

iščemo:  $T(e_T, n_T)$



i) Izračun dolžine  $d_{AB}$ :

$$d_{AB} = \sqrt{(\Delta e_A^B)^2 + (\Delta n_A^B)^2} \quad (1)$$

ii) Izračun smernega kota  $v_A^B$  in/ali  $v_B^A$ :

$$v_A^B = \arctan \frac{\Delta e_A^B}{\Delta n_A^B} \quad v_B^A = \arctan \frac{\Delta e_B^A}{\Delta n_B^A} \quad (2a, 2b)$$

iii) Izračun smernega kota  $v_A^T$  in/ali  $v_B^T$ :

Če nova točka  $T$  leži **levo** glede na zveznico  $AB$  (skica levo):

$$v_A^T = v_A^B - \delta_A \quad (+360^\circ) \quad v_B^T = v_B^A + \delta_B \quad (-360^\circ) \quad (3a, 3b)$$

Če nova točka  $T$  leži **desno** glede na zveznico  $AB$  (skica desno):

$$v_A^T = v_A^B + \delta_A \quad (-360^\circ) \quad v_B^T = v_B^A - \delta_B \quad (+360^\circ) \quad (4a, 4b)$$

*iv) Izračun kota  $\delta$ :*

$$\delta = 180^\circ - \delta_A - \delta_B \quad (5)$$

Kontrola:

$$\delta = |v_B^T - v_A^T| \quad (6)$$

*v) Izračun stranice trikotnika  $d_{AT}$  in/ali  $d_{BT}$ :*

$$d_{AT} = d_{AB} \frac{\sin \delta_B}{\sin \delta} \quad d_{BT} = d_{AB} \frac{\sin \delta_A}{\sin \delta} \quad (7a, 7b)$$

*vi) Izračun koordinat točke  $T$ :*

$$\Delta e_A^T = d_{AT} \sin v_A^T \quad \Delta e_B^T = d_{BT} \sin v_B^T \quad (8a, 8b)$$

$$\Delta n_A^T = d_{AT} \cos v_A^T \quad \Delta n_B^T = d_{BT} \cos v_B^T \quad (8c, 8d)$$

$$e'_T = e_A + \Delta e_A^T \quad e''_T = e_B + \Delta e_B^T \quad (9a, 9b)$$

$$n'_T = n_A + \Delta n_A^T \quad n''_T = n_B + \Delta n_B^T \quad (9c, 9d)$$

Kontrola:

$$e'_T = e''_T \quad (10a)$$

$$n'_T = n''_T \quad (10b)$$