GEODEZIJA - VAJE: VAJA 1 - DEL 1
Smerni kot in izračun koordinat

Primer: 23

1.Naloga

Podane imate koordinate točke A in točke B:

A(y, x) = (455255.007, 101377.558)
B(y, x) = (457013.376, 101927.793)

Izračunaj razdaljo d_{AB} in smerni kot med točkama A in B ν_A^B ter obratni smerni kot ν_B^A!

2.Naloga

Podane imate koordinate točke C in točke D:

C(y, x) = (455255.007, 101377.558)
D(y, x) = (455013.376, 101127.793)

Izračunaj razdaljo d_{CD} in smerni kot med točkama C in D ν_C^D ter obratni smerni kot ν_D^C!

3.Naloga

Podane imate koordinate točke E:

E(y, x) = (455255.007, 101377.558)

Smerni kot do točke F znaša $\nu_E^F = 52° \ 7' \ 30.1"$,
horizontalna dolžina med točkama E in F pa znaša $d_{EF} = 1140.18$ m

Izračunaj koordinate točke F!

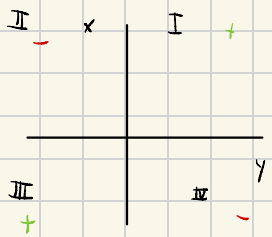
4.Naloga

Podani imate koordinate točke G:

G(y, x) = (455255.007, 101377.558)

Smerni kot do točke H znaša $\nu_G^H = 302° \ 28' \ 16.3"$,
horizontalna dolžina med točkama G in H pa znaša $d_{GH} = 1303.84$ m

Izračunaj koordinate točke H!



① $A(y,x) = (455255.007, 101377.558)$

$B(y,x) = (457013.376, 101927.793)$

$d_{AB} = \sqrt{\Delta y^2 + \Delta x^2} = 1842.449$

$\Delta y = y_2 - y_1 = 1758.369$

$\Delta x = 550.235$

$V_A^B = \arctan \frac{\Delta y}{\Delta x} = 72°37'25,94''$

$V_B^A = \arctan \frac{\Delta y}{\Delta x} + 180° = 252°37'25,94''$

② $C(y,x) = (455255.007, 101377.558)$

$D(y,x) = (455013.376, 101127.793)$

$d_{CD} = \sqrt{\Delta y^2 + \Delta x^2} = 347.517$

$\Delta y = -241,631$

$\Delta x = -249,765$

$V_C^D = \arctan \frac{\Delta y}{\Delta x} = 44°3'6.04'' + 180° = 224°3'6.04''$

$V_D^C = -11- - 180° = 44°3'6.04''$

③ $E(y,x) = (455255.007, 101377.558)$

$V_E^F = 52°7'30.1'' = 52,125$

$d_{EF} = 1140.18m$

cos ↖ $x_2 = 101377.558 + \cos V \cdot 1140.18 =$

F: $= 102077.561$

sin ↳ $y_2 = 456155.010$

$F = (456155.010, 102077.561)$

④ $G(y, x) = (455255.007, 101377.558)$

$V_G^H = 302°28'16,3'' \rightarrow 302,471$

$d_{GH} = 1303.84$

H: $y_2 = 455255.007 + \sin 302,471 \cdot 1303,84 = 454155.0051$

$x_2 = 102077.554$