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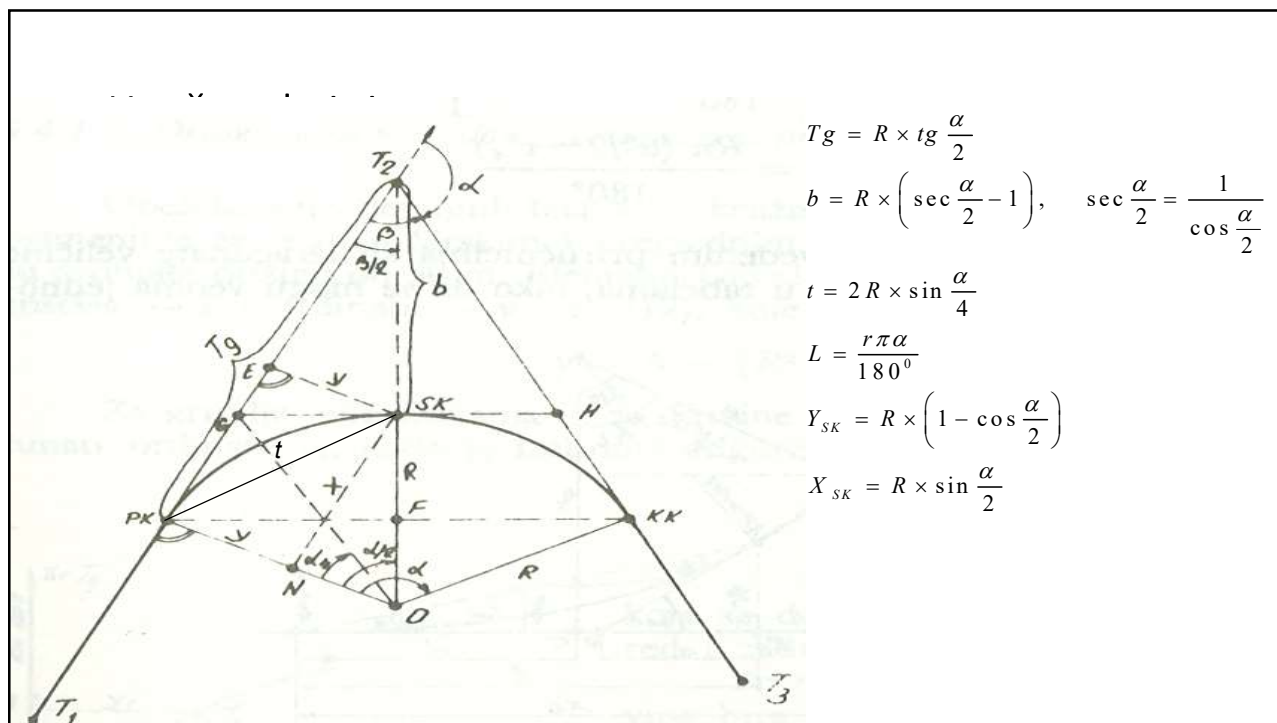
Studijski program: **GRAĐEVINARSTVO**
Modul: **ZAJEDNIČKE OSNOVE**
Godina/Semestar: **1 godina / 1 semestar**

Naziv predmeta (šifra): **GEODEZIJA (B3O1G)**
Nastavnik: **Branislav Bajat**

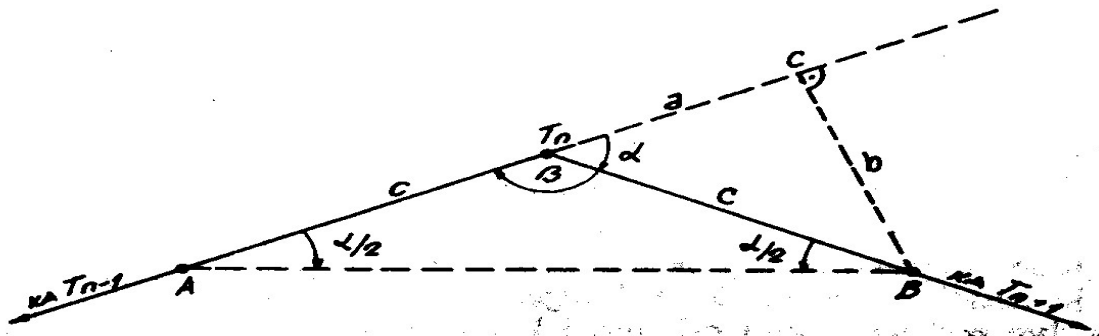
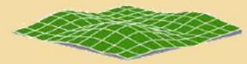
Naslov predavanja: **Krivine, površine i kubature**
Datum : 09.12.20212.

Beograd, 2022.

Sva autorska prava autora prezentacije i/ili video snimaka su zaštićena. Snimak ili prezentacija se mogu koristiti samo za nastavu na daljinu studenta Građevinskog fakulteta Univerziteta u Beogradu u školskoj 2022/2023 i ne mogu se koristiti za druge svrhe bez pismene saglasnosti autora materijala.



Određivanje skretnog ugla

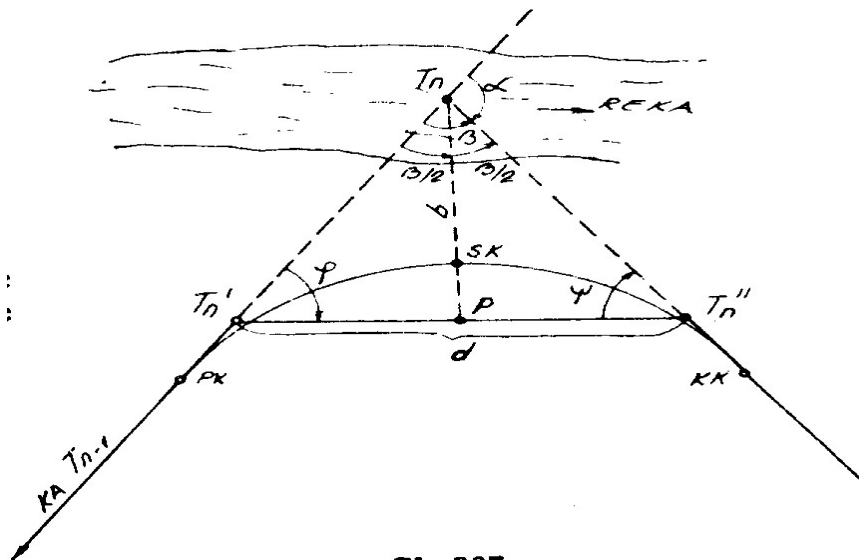


$$a = \sqrt{c^2 - b^2}$$

$$\operatorname{tg} \alpha = \frac{b}{a}$$

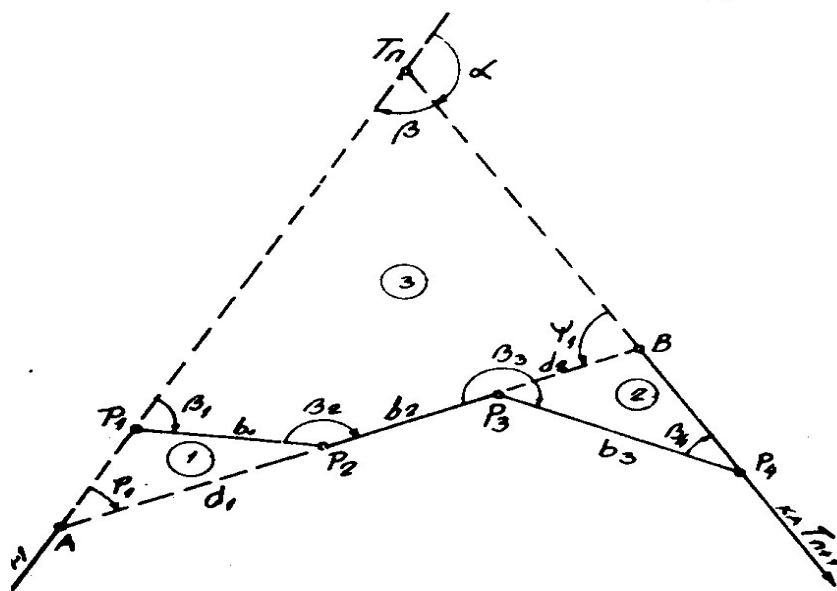
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Određivanje skretnog ugla

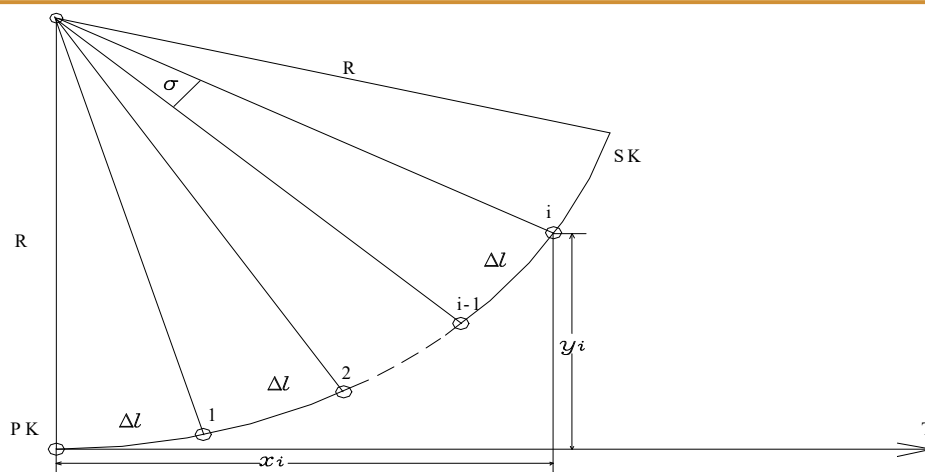


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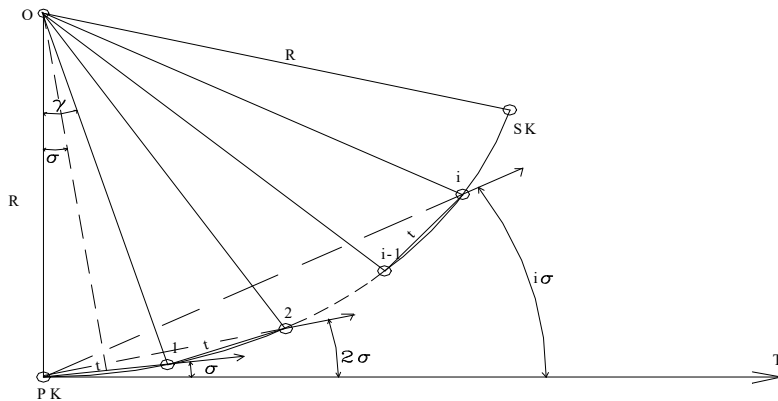
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$$y_i = R [1 - \cos(i \cdot \delta)]$$

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Obeležavanje kružnog luka (polarna metoda)

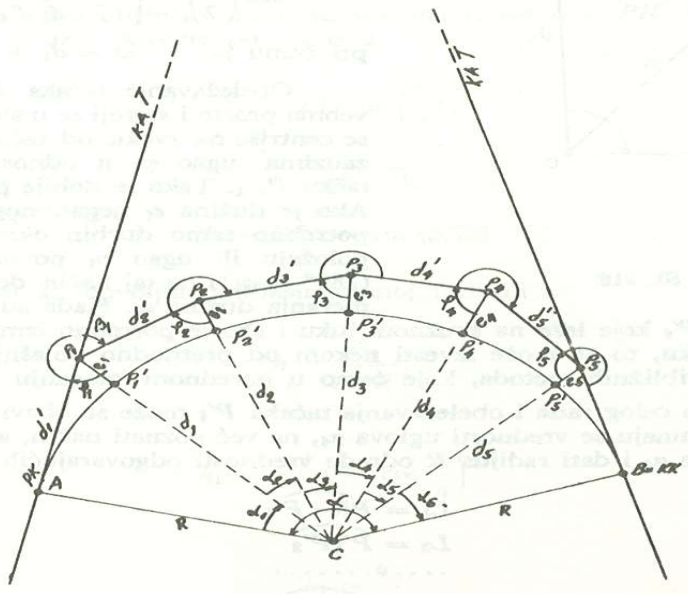


$$\gamma = \frac{\Delta l \cdot 180^0}{R \pi}, \quad \delta = \frac{\gamma}{2}$$

$$t = 2 R \cdot \sin \delta, \quad \delta_i = i \cdot \delta$$

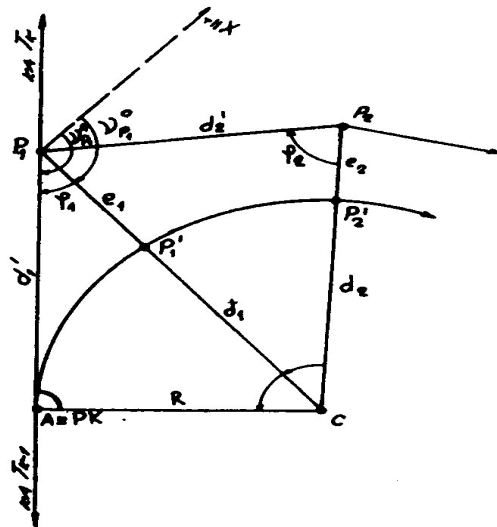
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Obeležavanje kružnog luka (poligonalna metoda)



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Obeležavanje kružnog luka (poligonalna metoda)



$$e_1 = d_1 - R$$

$$e_2 = d_2 - R$$

$$\dots\dots\dots$$

$$e_n = d_n - R$$

$$\varphi_1 = V_{P1}^{PK} - V_{P1}^C$$

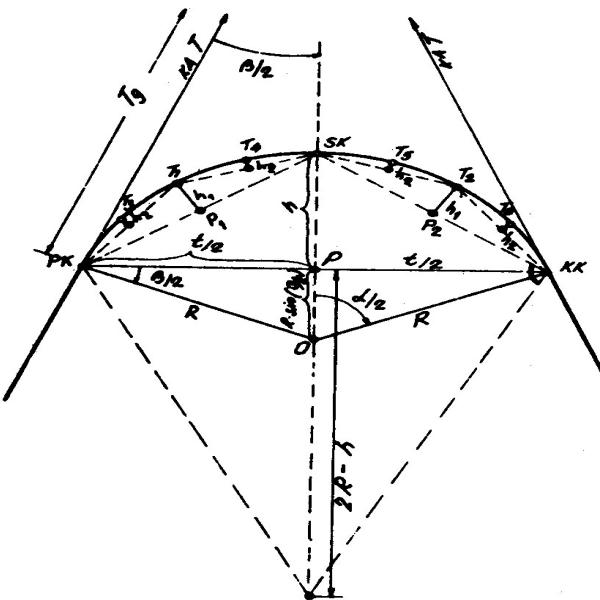
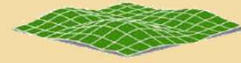
$$\varphi_1 = V_{P2}^{P1} - V_{P2}^C$$

$$\dots\dots\dots$$

$$\varphi_1 = V_{Pn}^{Pn-1} - V_{Pn}^C$$

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Obeležavanje kružnog luka (metoda četvrtina)



$$t = 2Tg \times \sin\left(\frac{\beta}{2}\right)$$

$$h = R \left(1 - \sin\left(\frac{\beta}{2}\right)\right)$$

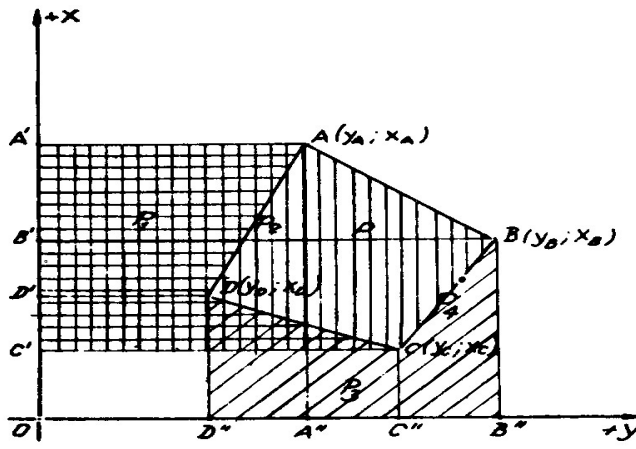
$$h_1 = R \left(1 - \cos\left(\frac{\alpha}{4}\right)\right)$$

$$\dots\dots\dots$$

$$h_i = \frac{h_{i-1}}{4}$$

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Računanje površina

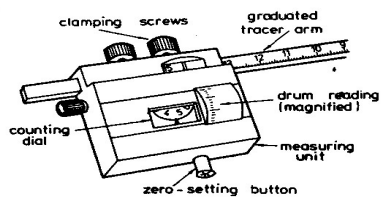
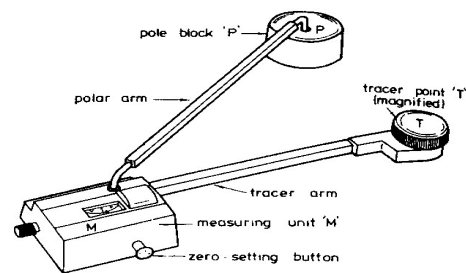


$$P = \frac{1}{2} \sum_{i=1}^n y_i (x_{i-1} - x_{i+1})$$

$$P = \frac{1}{2} \sum_{i=1}^n x_i (y_{i+1} - y_{i-1})$$

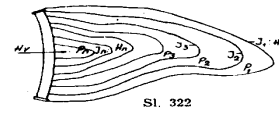
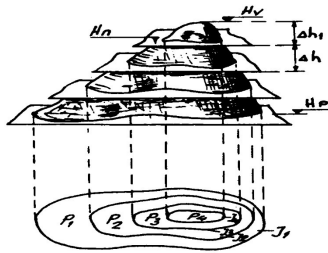
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Planimetar

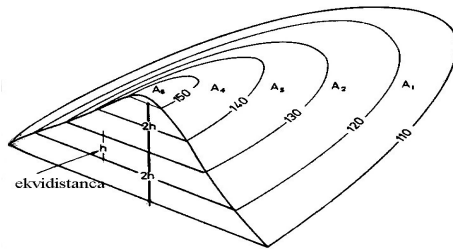


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Računanje zapremina pomoću izohipsi



Sl. 322



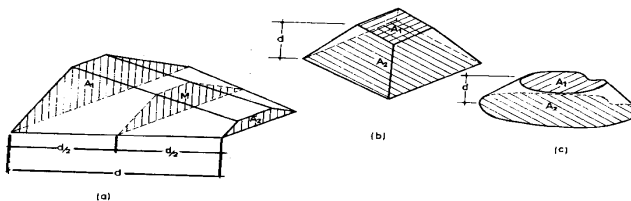
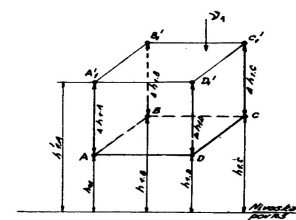
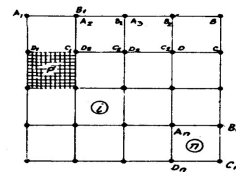
$$V = P_n \times \frac{\Delta h_1}{3} + \Delta h \left(\frac{P_1 + P_2}{2} + \frac{P_2 + P_3}{2} + \dots + \frac{P_{n-2} + P_{n-1}}{2} \right)$$

$$V = \frac{1}{3} P_n \times \Delta h_1 + \frac{\Delta h}{2} (P_1 + P_{n-1}) + \Delta h \sum_{i=2}^{n-2} P_i$$

$$\Delta h_1 = H_v - H_n$$

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Računanje zapremina pomoću mreže pravilnih geometrijskih tijela



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Računanje zapremina pomoću mreže pravilnih geometrijskih slika



$$V_3 = F_3 \frac{h_1 + h_2 + h_3}{3}; \quad V_4 = F_4 \frac{h_1 + h_2 + h_3 + h_4}{4}.$$

