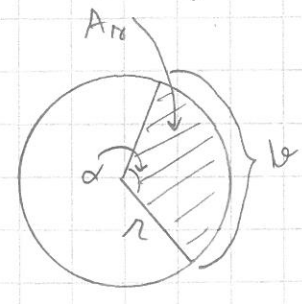
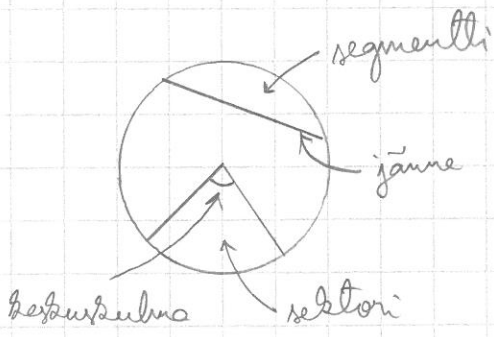


10. Ympyrän sektori ja segmentti



α ja A_s ovat suoran verrannolliset

α	A_s
α	A_s
360°	πr^2

$$\Rightarrow \frac{\alpha}{360^\circ} = \frac{A_s}{\pi r^2} \cdot \pi r^2$$

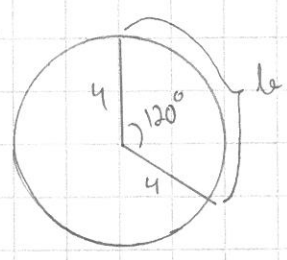
$$A_s = \frac{\alpha}{360^\circ} \cdot \pi r^2$$

$$l = \frac{\alpha}{360^\circ} \cdot 2\pi r$$

SEKTORIN PINTA-ALA
— — — KAAREN PITUUS

Vastaus:

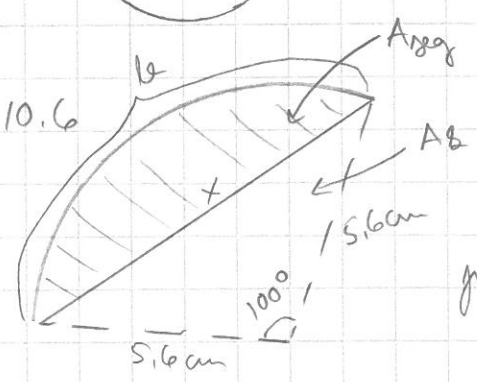
10.3



l) $l = \frac{120^\circ}{360^\circ} \cdot 2\pi \cdot 4 = \frac{1}{3} \cdot 8\pi$

piiri: $l + 2 \cdot 4 = \frac{8\pi}{3} + 8$

10.6



Kosinilause:

$$x^2 = 5,6^2 + 5,6^2 - 2 \cdot 5,6 \cdot 5,6 \cdot \cos 100^\circ \quad | \sqrt{\quad}$$

$\Rightarrow x = 8,5797 \text{ cm}$

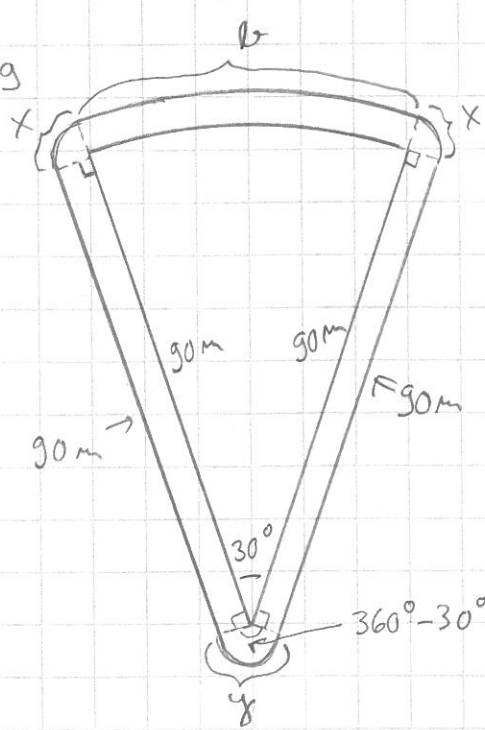
piiri: $x + l = x + \frac{100^\circ}{360^\circ} \cdot 2\pi \cdot 5,6 \text{ cm}$
 $= 18,3535 \text{ cm} \approx \underline{18 \text{ cm}}$

segmentin pinta-ala:

$$A_{\text{seg}} = A_s - A_B = \frac{100^\circ}{360^\circ} \cdot \pi \cdot (5,6 \text{ cm})^2 - \frac{1}{2} \cdot 5,6 \text{ cm} \cdot 5,6 \text{ cm} \cdot \sin 100^\circ$$

$$= 11,925 \text{ cm}^2 \approx \underline{12 \text{ cm}^2}$$

10.9



$$x = \frac{90^\circ}{360^\circ} \cdot 2\pi \cdot 1$$

$$l = \frac{30^\circ}{360^\circ} \cdot 2\pi \cdot 91$$

$$y = \frac{150^\circ}{360^\circ} \cdot 2\pi \cdot 1$$

reitin pituus: $2x + l + y + 2 \cdot 90$

$\approx 233,407 \text{ m} \approx \underline{233 \text{ m}}$