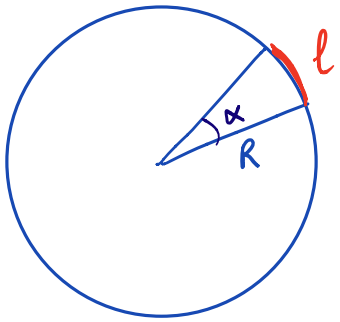
Ex 3.5

a)



$\alpha = \frac{1}{60}°$

en degré: $l = \pi \cdot 6370 \cdot \frac{1}{60} \cdot \frac{1}{180} \cong 1{,}853 \text{ km} \cong \underline{1853 \text{ m}}$

(en radian : $\alpha = \frac{1}{60} \cdot \frac{\pi}{180} = \frac{\pi}{10'800} \Rightarrow l = \frac{\pi}{10'800} \cdot 6370$)

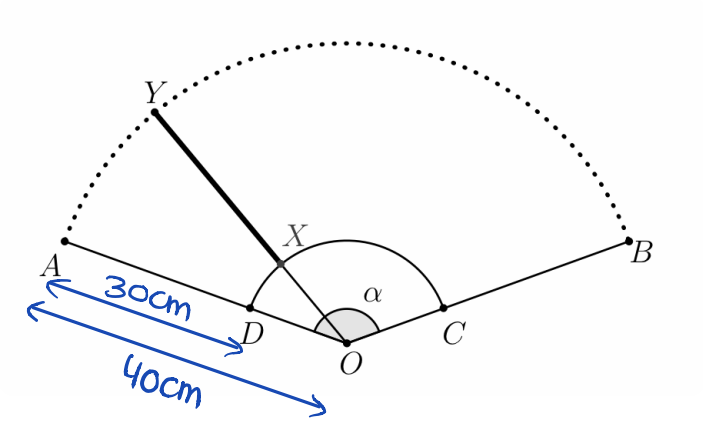
b) non car chaque parallèle a un rayon différent

Exercice 3.8

$\alpha = 49° 45' - 40° 15' = 49{,}75° - 40{,}25° = 9{,}5°$

$l = \pi \cdot 6370 \cdot \frac{9{,}5}{180} \cong \underline{1056{,}19 \text{ km}}$

Ex 3.13



a) $\ell = \frac{\pi \cdot 40}{180} \cdot 140 \cong 97{,}74 \text{ cm}$

b) $\sigma_1 = \frac{\pi \cdot 40^2}{360} \cdot 140 \cong 1954{,}77$

$\sigma_2 = \frac{\pi \cdot 10^2}{360} \cdot 140 \cong 122{,}17$

$\Rightarrow \quad \sigma = \sigma_1 - \sigma_2 = 1832{,}6 \text{ cm}^2$