

# Eratostenov eksperiment

Aritmetička sredina mjerenja duljine sjene:

$$a_1 = 100 \text{ cm}$$

$$a_2 = 99 \text{ cm}$$

$$a_3 = 98,5 \text{ cm}$$

$$a_4 = 98 \text{ cm}$$

$$a_5 = 97,5 \text{ cm}$$

$$a_6 = 97 \text{ cm}$$

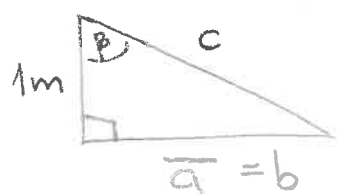
$$\bar{a} = \frac{a_1 + a_2 + a_3 + a_4 + a_5 + a_6}{6}$$

$$\bar{a} = \frac{100 + 99 + 98,5 + 98 + 97,5 + 97}{6}$$

$$\bar{a} = \frac{590}{6} = 98,33 \text{ cm} = 0,9833 \text{ m}$$

VI. OŠ. VARAŽDIN  $\rightarrow 46.17^\circ 53'' \text{ N}, 16.20^\circ 20'' \text{ E}$   
Škola na ekvatoru  $\rightarrow 0^\circ, 16.20^\circ 20'' \text{ E}$

Duljina treće stranice:  $\rightarrow$  pomoću Pitagorina poučka



$$c^2 = a^2 + b^2$$

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

$$c = \sqrt{1^2 + 98,33^2}$$

$$c = \sqrt{1 + 9670}$$

$$c = \sqrt{1,9670}$$

$$c = 1,40 \text{ m}$$

Duljina kuta:  $44,5^\circ - 45^\circ$

Udaljenost između škola: 5129 km

Kut izmjeren u drugoj školi:  $\rightarrow 0^\circ$

$360^\circ : \beta = \sigma : d \rightarrow$  udaljenost škola

$\downarrow$   
opseg

$$\sigma = \frac{d \cdot 360^\circ}{\beta} = \frac{5129 \cdot 360}{44,5} = \boxed{41.493 \text{ km}} \rightarrow \text{naš opseg Zemlje}$$

Pravi opseg Zemlje je 40 000.

Odstupanje je 1493 km.