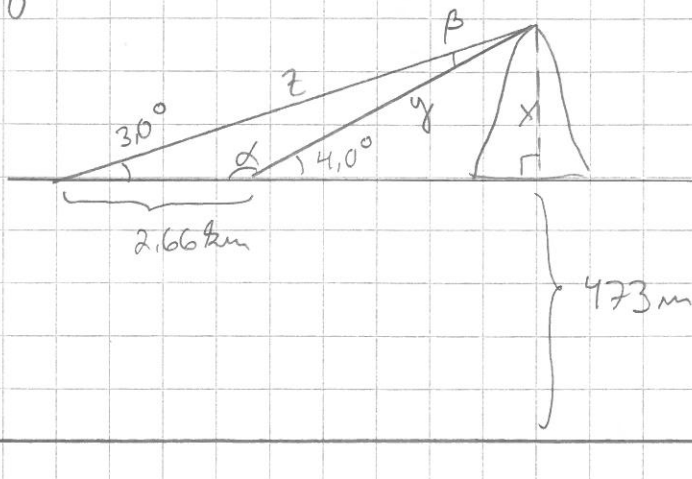


6.10



$$\alpha = 180^\circ - 4,0^\circ = 176^\circ$$

$$\beta = 180^\circ - 3,0^\circ - 176^\circ = 1^\circ$$

$$\text{Sinilause: } \frac{y}{\sin 3^\circ} = \frac{2,66 \text{ km}}{\sin 1^\circ} \quad | \cdot \sin 3^\circ$$

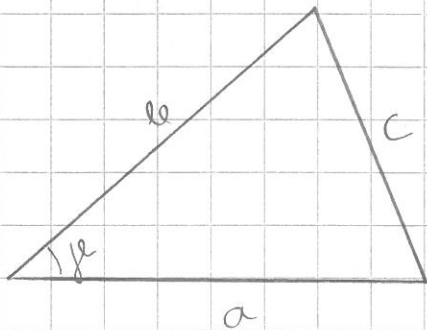
$$\Rightarrow y = \frac{2,66 \text{ km} \cdot \sin 3^\circ}{\sin 1^\circ} \approx 7,977 \text{ km}$$

$$(z = 10,632 \text{ km})$$

merenpinta

$$\sin 4^\circ = \frac{x}{y} \quad | \cdot y \quad (\Rightarrow) x = 7,977 \text{ km} \cdot \sin 4^\circ \approx 0,5564 \text{ km}$$

$$\text{Vast. korkeus merenpinnasta: } 556 \text{ m} + 473 \text{ m} = 1029 \text{ m} \approx \underline{1030 \text{ m}}$$

7. Kosinilause

$$c^2 = a^2 + b^2 - 2ab \cos \alpha$$

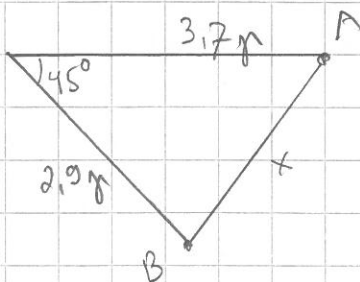
KOSINILAUSE

Huom. 1° Kosinilause pätee kaikille kolmioille.

2° Kosinilauseella voidaan laskea

- sivun jös tiedetään 2 sivua jö 1 kulma
- kulma — — — — — 3 sivua

7.6

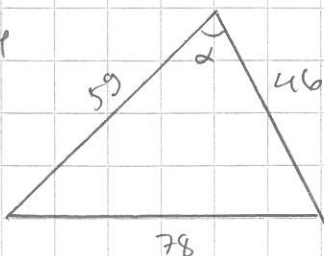


Kosinilause:

$$x^2 = 2,9^2 + 3,7^2 - 2 \cdot 2,9 \cdot 3,7 \cdot \cos 45^\circ \quad | \sqrt{\quad}$$

$$\Rightarrow x \approx \pm 2,63163 \approx 2,6 \text{ (merenpinnasta)}$$

7.4

Suurin kulma α on vastäätä sivua (78) vastäätä

Kosinilause:

$$78^2 = 59^2 + 46^2 - 2 \cdot 59 \cdot 46 \cdot \cos \alpha$$

$$\Rightarrow 78^2 - 59^2 - 46^2 = -2 \cdot 59 \cdot 46 \cdot \cos \alpha \quad | : (-2 \cdot 59 \cdot 46)$$