

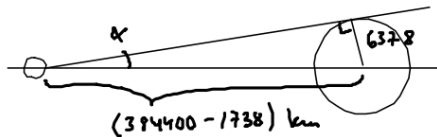
MAB2 Mallivastaukset

1.



Tokenttaako sivut Pythagoraa?
 $1^2 + 16^2 = 257$, $17^2 = 289$
 V: Ei ole suorakulmainen.

2.

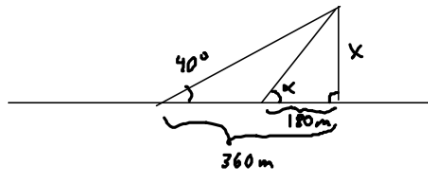


$$\sin \alpha = \frac{6378}{382662} \rightarrow \alpha = 0,96^\circ$$

Kysytty kulma = $2\alpha = 1,91^\circ$

V: n. 2°

3.



$$\tan 40^\circ = \frac{x}{360} \rightarrow x = 360 \cdot \tan 40^\circ = 302,08$$

$$\tan \alpha = \frac{302,08}{180} \rightarrow \alpha = \tan^{-1}(1,6782) = 59,2$$

V: n. 60°

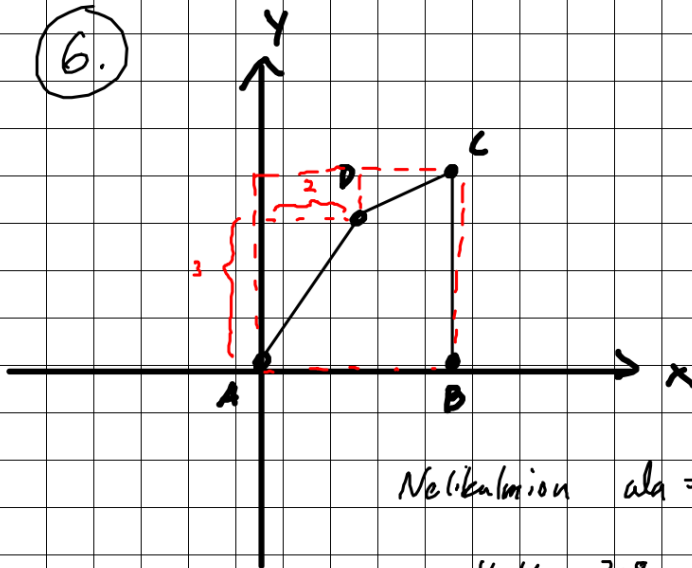
4.

$$\frac{A}{12 \text{ ha}} = \left(\frac{1}{20000} \right)^2 \rightarrow A = 12 \text{ ha} \cdot \frac{1}{20000^2} = 0,00000003 \text{ ha} = \underline{\underline{3 \text{ cm}^2}}$$

$$\frac{4,3 \text{ cm}}{x} = \frac{1}{20000} \rightarrow x = 4,3 \text{ cm} \cdot 20000 = 86000 \text{ cm} = \underline{\underline{860 \text{ m}}}$$



6.



Sivujen pituudet Pythag.

avulla:

$$AD = \sqrt{3^2 + 2^2} = \sqrt{13} \approx 3,6$$

$$DC = \sqrt{1^2 + 2^2} = \sqrt{5} \approx 2,2$$

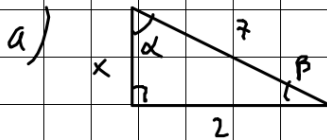
$$CB = 4$$

$$AB = 4$$

Nelikulmion ala = neljän ala - ylimääräiset

$$= 4 \cdot 4 - \frac{3 \cdot 2}{2} - 2 \cdot 1 - \frac{1 \cdot 2}{2} = 16 - 3 - 2 - 1 = 10$$

7.



$$x^2 + 2^2 = 7^2$$

$$x^2 = 49 - 4 = 45$$

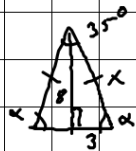
$$x = \sqrt{45} \approx 6,7$$

$$\cos \beta = \frac{2}{7}$$

$$\beta = \cos^{-1}\left(\frac{2}{7}\right) \approx 16,6^\circ$$

$$\alpha = 90^\circ - \beta = 73,4^\circ$$

b)



$$3^2 + 8^2 = x^2$$

$$x^2 = 73$$

$$x = \sqrt{73} \approx 8,54$$

Kantakulmat yhtäis?

$$2\alpha = 180^\circ - 35^\circ = 145^\circ \Rightarrow \alpha = 72,5^\circ$$