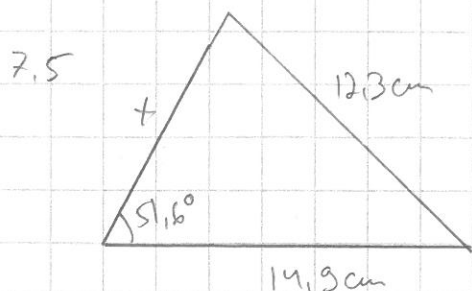


$$\Rightarrow \cos \alpha = \frac{78^2 - 59^2 - 46^2}{-2 \cdot 59 \cdot 46}$$

$$\Rightarrow \alpha = \cos^{-1}(\dots) = 95,147^\circ \approx \underline{95,1^\circ}$$



Korinlause:

$$12,3^2 = x^2 + 14,9^2 - 2 \cdot x \cdot 14,9 \cdot \cos 51,6^\circ$$

yhteen 2. asten yhtälö (muotoa $ax^2 + bx + c = 0$)

\Rightarrow ratkaistaan ratkaisukaavalla (MMA2)

$$\Rightarrow x \approx 13,1 \text{ (m)} \quad x \approx 5,4 \text{ (m)} \quad (\text{leikimelle})$$

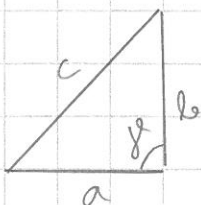
TI-myyri: MENU \rightarrow 3: Algebre \rightarrow 1: Ratkaisu

$$\rightarrow \text{solve}(12,3^2 = x^2 + 14,9^2 - 2 \cdot x \cdot 14,9 \cdot \cos 51,6^\circ, x)$$

$$\Rightarrow x \approx 5,39 \dots \text{ or } x \approx 13,155 \dots$$

?!]

huom.



1^o Olet. $\varphi = 90^\circ$

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

2^o Olet. $a^2 + b^2 = c^2$

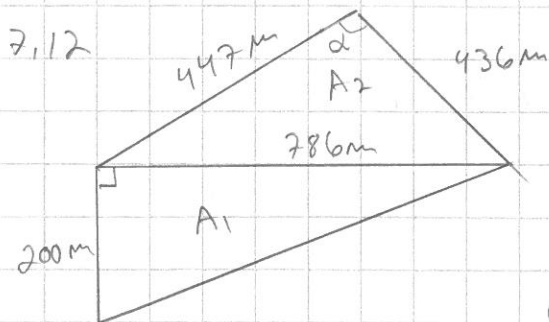
Korinlause: $c^2 = a^2 + b^2 - 2 \cdot a \cdot b \cdot \cos \varphi$

$$\Rightarrow a^2 + b^2 = a^2 + b^2 - 2ab \cos \varphi \quad | -a^2 - b^2$$

$$\Rightarrow -2ab \cos \varphi = 0 \quad | : (-2ab) \neq 0$$

$$\Rightarrow \cos \varphi = 0 \quad \Rightarrow \varphi = 90^\circ$$

1^o - 2^o Kolmio on suorakulmainen \Rightarrow kolmio toteuttaa Pythagorean lauseen



Korinlause:

$$786^2 = 447^2 + 436^2 - 2 \cdot 447 \cdot 436 \cdot \cos \alpha$$

$$\Rightarrow 786^2 - 447^2 - 436^2 = -2 \cdot 447 \cdot 436 \cdot \cos \alpha$$

$$\Rightarrow \cos \alpha = \frac{786^2 - 447^2 - 436^2}{-2 \cdot 447 \cdot 436} \Rightarrow \alpha \approx 125,779^\circ$$

$$A = A_1 + A_2 = \frac{1}{2} \cdot 786 \text{ m} \cdot 200 \text{ m} + \frac{1}{2} \cdot 447 \text{ m} \cdot 436 \text{ m} \cdot \sin 125,779^\circ$$

$$= 157 \ 656 \text{ m}^2 \approx \underline{15,8 \text{ ha}}$$

