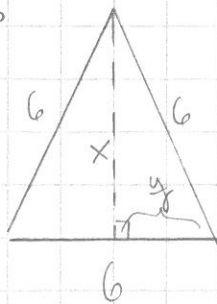


5.6

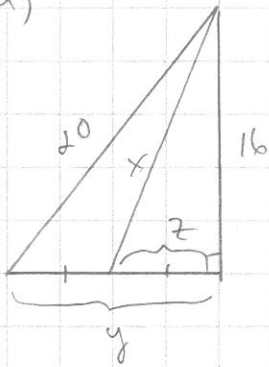
$y = 3$  (symmetrisch)



a) Pythagoras:  $x^2 + 3^2 = 6^2$   $| -3^2$   
 $\Rightarrow x^2 = 6^2 - 3^2 = 27$   $|\sqrt{\quad}$   
 $\Rightarrow x = \pm \sqrt{27} (= 3\sqrt{3})$

b)  $A = \frac{1}{2} \cdot 6 \cdot \sqrt{27} = 3\sqrt{27}$

5.12 a)

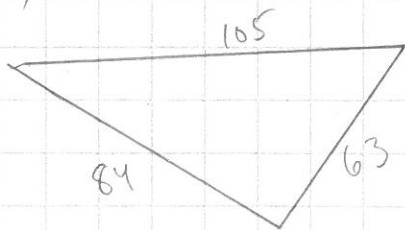


Pythagoras:  $y^2 + 16^2 = 20^2$   
 $\Rightarrow y^2 = 20^2 - 16^2 = 144$   $|\sqrt{\quad}$   
 $\Rightarrow y = \pm \sqrt{144} = 12$

$z = \frac{y}{2} = \frac{12}{2} = 6$

Pythagoras:  $6^2 + 16^2 = x^2$   $|\sqrt{\quad}$   
 $\Rightarrow x = \pm \sqrt{6^2 + 16^2} = \sqrt{292} (= 2\sqrt{73})$

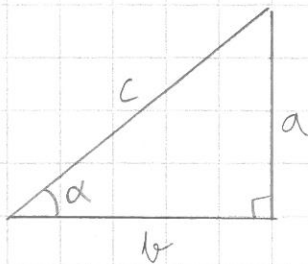
b)



$84^2 + 63^2 = 105^2$

$\Rightarrow 11025 = 11025$

Kolmio toteuttaa Pythagorean lauseen  
 $\Rightarrow$  kolmio on suorakulmainen

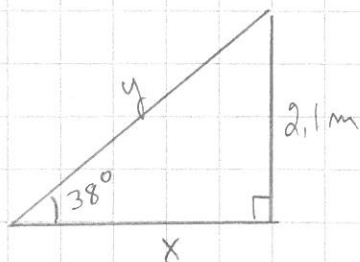


$$\sin \alpha = \frac{a}{c}$$

$$\cos \alpha = \frac{b}{c}$$

$$\tan \alpha = \frac{a}{b}$$

Esim.



$\tan 38^\circ = \frac{2,1 \text{ m}}{x}$   $|\cdot x$

$\Rightarrow x \tan 38^\circ = 2,1 \text{ m}$   $|\div \tan 38^\circ$

$\Rightarrow x = \frac{2,1 \text{ m}}{\tan 38^\circ} \approx 2,687877 \text{ m} \approx \underline{2,7 \text{ m}}$

$\sin 38^\circ = \frac{2,1 \text{ m}}{y}$

$\Rightarrow y = \frac{2,1 \text{ m}}{\sin 38^\circ} \approx 3,41097 \text{ m} \approx \underline{3,4 \text{ m}}$