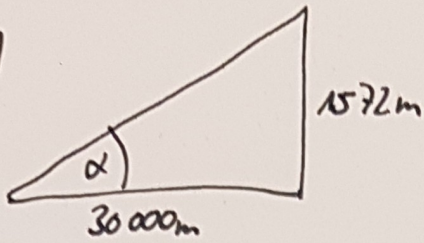


(7)

a)

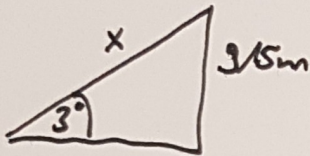


$$\tan \alpha = \frac{1572}{30000}$$

$$\alpha \approx \underline{\underline{3^\circ}}$$

$$\tan \alpha = 0,0524 = \underline{\underline{5,24\%}}$$

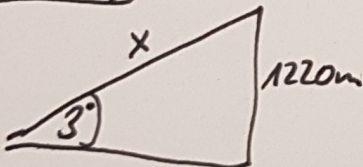
A: ...

b) 3000 Fu\ss

$$\sin 3 \approx \frac{915}{x}$$

$$x \approx \underline{\underline{17483,20m}}$$

A: ...

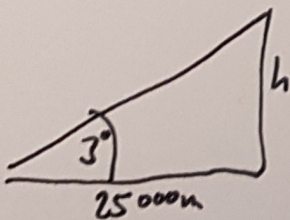
4000 Fu\ss

$$\sin 3 = \frac{1220}{x}$$

$$x \approx \underline{\underline{23310,93m}}$$

A: ...

c)

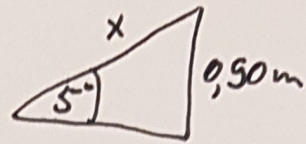


$$\tan 3 = \frac{h}{25000}$$

$$h \approx \underline{\underline{1310,19m}}$$

A: ...

(10)

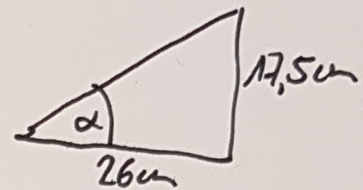


$$\sin 5 = \frac{0,5}{x}$$

$$x \approx \underline{\underline{10,33m}}$$

A: ...

(11) a)

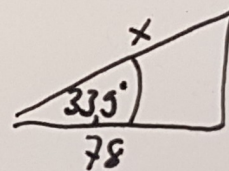


$$\tan \alpha = \frac{17,5}{26}$$

$$\alpha \approx \underline{\underline{33,9^\circ}}$$

A: ...

b) 3 Stufen

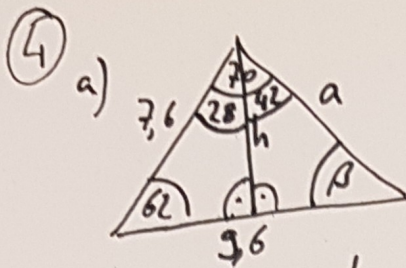


$$26 \cdot 3 = 78m$$

$$\cos 33,9 = \frac{78}{x}$$

$$x \approx \underline{\underline{94,0cm}}$$

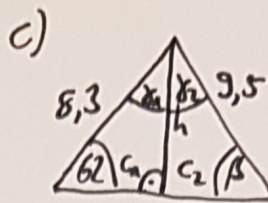
A: ...



h)  $\sin 62 = \frac{h}{7.6}$   
 $h \approx 6.7 \text{ cm}$

a)  $\cos 42 = \frac{6.7}{a}$   
 $a \approx 9.0 \text{ cm}$

β)  $\beta = 180 - 70 - 62$   
 $\beta = 48^\circ$



γ<sub>1</sub>)  $\gamma_1 = 180 - 90 - 62$   
 $\gamma_1 = 28$

h)  $\sin 62 = \frac{h}{8.3}$   
 $h \approx 7.3 \text{ cm}$

γ<sub>2</sub>)  $\cos \gamma_2 = \frac{7.3}{9.5}$   
 $\gamma_2 \approx 39.8^\circ$

γ)  $\gamma = 39.8 + 28$   
 $\gamma = 67.8$

β)  $\beta = 180 - 62 - 67.8$   
 $\beta = 50.2^\circ$

c<sub>1</sub>)  $\cos 62 = \frac{c_1}{8.3}$

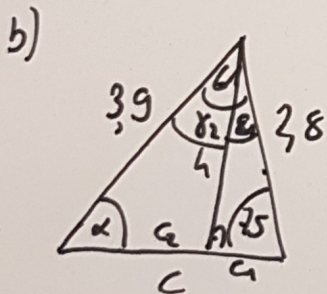
$c_1 \approx 3.9 \text{ cm}$

c<sub>2</sub>)  $\cos 50.2 = \frac{c_2}{9.5}$

$c_2 \approx 6.1 \text{ cm}$

c)  $c = 6.1 + 3.9$

$c = 10.0 \text{ cm}$



α)  $\alpha = 180 - 61 - 75$   
 $\alpha = 44^\circ$

γ<sub>1</sub>)  $\gamma_1 = 180 - 90 - 75$   
 $\gamma_1 = 15^\circ$

γ<sub>2</sub>)  $\gamma_2 = 61 - 15$   
 $\gamma_2 = 46^\circ$

c<sub>1</sub>)  $\cos 75 = \frac{c_1}{2.8}$

$c_1 \approx 0.72 \text{ cm}$

c<sub>2</sub>)  $\sin 46 = \frac{c_2}{3.9}$

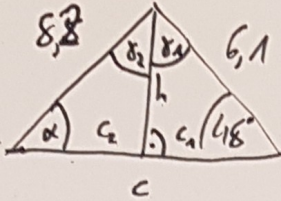
$c_2 \approx 2.81$

$c = 0.72 + 2.81$

$c = 3.53 \text{ cm}$

④

d)



$$\boxed{\gamma_1} \quad \gamma_1 = 180 - 90 - 48$$

$$\underline{\underline{\gamma_1 = 42^\circ}}$$

$$\boxed{h} \quad \sin 48 = \frac{h}{6,1}$$

$$\underline{\underline{h \approx 4,5 \text{ cm}}}$$

$$\boxed{c_1} \quad c_1^2 = 6,1^2 - 4,5^2$$

$$\underline{\underline{c_1 \approx 4,1 \text{ cm}}}$$

$$\boxed{\gamma_2} \quad \cos \gamma_2 = \frac{4,5}{8,2}$$

$$\underline{\underline{\gamma_2 \approx 56,7^\circ}}$$

$$\boxed{\gamma} \quad \gamma = 56,7 + 42$$

$$\underline{\underline{\gamma = 98,7^\circ}}$$

$$\boxed{\alpha} \quad \alpha = 180 - 98,7 - 48$$

$$\underline{\underline{\alpha = 33,3^\circ}}$$

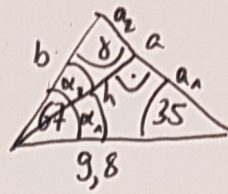
$$\boxed{c_2} \quad \sin 56,7 = \frac{c_2}{8,2}$$

$$\underline{\underline{c_2 \approx 6,9 \text{ cm}}}$$

$$\boxed{c} \quad c = 6,9 + 4,1$$

$$\underline{\underline{c = 11,0 \text{ cm}}}$$

e)



$$\boxed{\gamma} \quad \gamma = 180 - 67 - 35$$

$$\underline{\underline{\gamma = 78^\circ}}$$

$$\boxed{\alpha_1} \quad \alpha_1 = 180 - 90 - 35$$

$$\underline{\underline{\alpha_1 = 55^\circ}}$$

$$\boxed{\alpha_2} \quad \alpha_2 = 67 - 55$$

$$\underline{\underline{= 12^\circ}}$$

nicht  
nötig

$$\boxed{a_1} \quad \cos 35 = \frac{a_1}{9,8}$$

$$\underline{\underline{a_1 \approx 8,0 \text{ cm}}}$$

$$\boxed{h} \quad \sin 35 = \frac{h}{9,8}$$

$$\underline{\underline{h \approx 5,6 \text{ cm}}}$$

$$\boxed{a_2} \quad \tan 78 = \frac{5,6}{a_2}$$

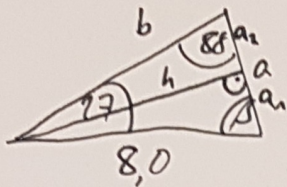
$$\underline{\underline{a_2 \approx 1,2 \text{ cm}}}$$

$$\boxed{a} \quad a = 1,2 + 8,0$$

$$\underline{\underline{a = 9,2 \text{ cm}}}$$

$$\boxed{b} \quad \sin 78 = \frac{5,6}{b}$$

$$\underline{\underline{b = 5,7 \text{ cm}}}$$



$$\beta = 180 - 27 - 88$$

$$\beta = 65^\circ$$

$$\cos 65 = \frac{a_1}{8}$$

$$a_1 \approx 3,4 \text{ cm}$$

$$\sin 65 = \frac{h}{8}$$

$$h \approx 7,3 \text{ cm}$$

$$\tan 88 = \frac{7,3}{a_2}$$

$$a_2 \approx 0,3$$

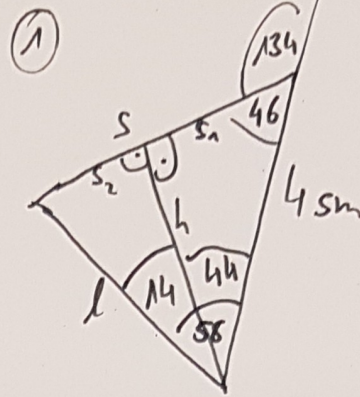
$$a = 0,3 + 3,4$$

$$a = 3,7 \text{ cm}$$

$$b^2 = 0,3^2 + 7,3^2$$

$$b \approx 7,3 \text{ cm}$$

S. 118



$$\cos 46 = \frac{s_1}{46}$$

$$s_1 \approx 2,779 \text{ sm}$$

$$\sin 46 = \frac{h}{46}$$

$$h \approx 2,877 \text{ sm}$$

$$\tan 14 = \frac{s_2}{2,877}$$

$$s_2 \approx 0,717 \text{ sm}$$

$$s = 0,717 + 2,779$$

$$s = 3,496 \text{ sm}$$

$$\cos 14 = \frac{2,877}{l}$$

$$l = 2,965 \text{ sm}$$

A: ...