

LÖSUNGEN

1a)

$$\begin{aligned} p \cdot 8 \text{ cm} &= (5 \text{ cm})^2 && \text{Kathetensatz} \\ p \cdot 8 \text{ cm} &= 25 \text{ cm}^2 \quad | : 8 \text{ cm} \\ \underline{p} &= \underline{3,125 \text{ cm}} \end{aligned}$$

$$\begin{aligned} p + q &= 8 \text{ cm} \\ 3,125 \text{ cm} + q &= 8 \text{ cm} \quad | - 3,125 \text{ cm} \\ \underline{q} &= \underline{4,875 \text{ cm}} \end{aligned}$$

$$\begin{aligned} p \cdot q &= h^2 && \text{Höhensatz} \\ 3,125 \text{ cm} \cdot 4,875 \text{ cm} &= h^2 \\ 15,23... \text{ cm}^2 &= h^2 \quad | \sqrt{\quad} \\ \underline{3,9 \text{ cm}} &= \underline{h} \end{aligned}$$

$$\begin{aligned} b^2 + (5 \text{ cm})^2 &= (8 \text{ cm})^2 \\ b^2 + 25 \text{ cm}^2 &= 64 \text{ cm}^2 \quad | - 25 \text{ cm}^2 \\ b^2 &= 39 \text{ cm}^2 \quad | \sqrt{\quad} \\ \underline{b} &= \underline{6,24 \text{ cm}} \end{aligned}$$

b) $\underline{a} = 4 \text{ cm} + 6 \text{ cm} = \underline{10 \text{ cm}}$

$$\begin{aligned} 4 \text{ cm} \cdot 6 \text{ cm} &= h^2 && \text{Höhensatz} \\ 24 \text{ cm}^2 &= h^2 \quad | \sqrt{\quad} \\ \underline{4,9 \text{ cm}} &= \underline{h} \end{aligned}$$

$$\begin{aligned} 6 \text{ cm} \cdot 10 \text{ cm} &= c^2 && \text{Kathetensatz} \\ 60 \text{ cm}^2 &= c^2 \quad | \sqrt{\quad} \\ \underline{7,75 \text{ cm}} &= \underline{c} \end{aligned}$$

$$4 \text{ cm} \cdot 10 \text{ cm} = b^2 \quad \text{Kathetensatz}$$

$$40 \text{ cm}^2 = b^2 \quad | \sqrt{\quad}$$

$$\underline{6,32 \text{ cm} \approx b}$$

c)

$$4 \text{ cm} \cdot b = (8 \text{ cm})^2 \quad \text{Kathetensatz}$$

$$4 \text{ cm} \cdot b = 64 \text{ cm}^2$$

$$\underline{b = 16 \text{ cm}}$$

$$p + 4 \text{ cm} = b$$

$$p + 4 \text{ cm} = 16 \text{ cm} \quad | - 4 \text{ cm}$$

$$\underline{p = 12 \text{ cm}}$$

$$4 \text{ cm} \cdot 12 \text{ cm} = h^2 \quad \text{Höhensatz}$$

$$48 \text{ cm}^2 = h^2 \quad | \sqrt{\quad}$$

$$\underline{6,93 \text{ cm} \approx h}$$

$$(8 \text{ cm})^2 + c^2 = (16 \text{ cm})^2$$

$$64 \text{ cm}^2 + c^2 = 256 \text{ cm}^2 \quad | - 64 \text{ cm}^2$$

$$c^2 = 192 \text{ cm}^2 \quad | \sqrt{\quad}$$

$$\underline{c \approx 13,86 \text{ cm}}$$

d)

$$(4 \text{ cm})^2 + (7 \text{ cm})^2 = c^2$$

$$16 \text{ cm}^2 + 49 \text{ cm}^2 = c^2$$

$$65 \text{ cm}^2 = c^2 \quad | \sqrt{\quad}$$

$$\underline{8,06 \text{ cm} \approx c}$$

$$p \cdot 8,06 \text{ cm} = (7 \text{ cm})^2 \quad \text{Kathetensatz}$$

$$p \cdot 8,06 \text{ cm} = 49 \text{ cm}^2 \quad | : 8,06 \text{ cm}$$

$$\underline{p \approx 6,08 \text{ cm}}$$

$$q + 6,08 \text{ cm} = 8,06 \text{ cm} \quad | - 6,08 \text{ cm}$$
$$\underline{q \approx 1,98 \text{ cm}}$$

$$1,98 \text{ cm} \cdot 6,08 \text{ cm} = h^2 \quad \text{Höhensatz}$$
$$12,0384 \text{ cm}^2 = h^2 \quad | \sqrt{\quad}$$
$$\underline{3,47 \text{ cm} \approx h}$$

e)

$$3 \text{ cm} \cdot q = (6 \text{ cm})^2 \quad \text{Höhensatz}$$
$$3 \text{ cm} \cdot q = 36 \text{ cm}^2 \quad | : 3 \text{ cm}$$
$$\underline{q = 12 \text{ cm}}$$

$$\underline{a = q + 3 \text{ cm} = 12 \text{ cm} + 3 \text{ cm} = 15 \text{ cm}}$$

$$(6 \text{ cm})^2 + (3 \text{ cm})^2 = b^2$$
$$36 \text{ cm}^2 + 9 \text{ cm}^2 = b^2$$
$$45 \text{ cm}^2 = b^2 \quad | \sqrt{\quad}$$
$$\underline{6,71 \text{ cm} \approx b}$$

$$(6 \text{ cm})^2 + (12 \text{ cm})^2 = c^2$$
$$36 \text{ cm}^2 + 144 \text{ cm}^2 = c^2$$
$$180 \text{ cm}^2 = c^2 \quad | \sqrt{\quad}$$
$$\underline{13,42 \text{ cm} \approx c}$$

f)

$$p + 2 \text{ cm} = 8 \text{ cm} \quad | - 2 \text{ cm}$$
$$\underline{p = 6 \text{ cm}}$$

$$2 \text{ cm} \cdot 6 \text{ cm} = h^2 \quad \text{Höhensatz}$$

$$12 \text{ cm}^2 = h^2 \quad | \sqrt{\quad}$$

$$\underline{3,46 \text{ cm} \approx h}$$

$$2 \text{ cm} \cdot 8 \text{ cm} = a^2 \quad \text{Kathetensatz}$$

$$16 \text{ cm}^2 = a^2 \quad | \sqrt{\quad}$$

$$\underline{4 \text{ cm} \approx a}$$

$$(4 \text{ cm})^2 + c^2 = (8 \text{ cm})^2$$

$$16 \text{ cm}^2 + c^2 = 64 \text{ cm}^2$$

$$c^2 = 48 \text{ cm}^2 \quad | \sqrt{\quad}$$

$$\underline{c \approx 6,93 \text{ cm}}$$

g)

$$q \cdot 4 \text{ cm} = (6 \text{ cm})^2 \quad \text{Höhensatz}$$

$$q \cdot 4 \text{ cm} = 36 \text{ cm}^2 \quad | : 4 \text{ cm}$$

$$\underline{q = 9 \text{ cm}}$$

$$\underline{c} = q + 4 \text{ cm} = 9 \text{ cm} + 4 \text{ cm} = \underline{13 \text{ cm}}$$

$$(4 \text{ cm})^2 + (6 \text{ cm})^2 = a^2$$

$$16 \text{ cm}^2 + 36 \text{ cm}^2 = a^2$$

$$52 \text{ cm}^2 = a^2 \quad | \sqrt{\quad}$$

$$\underline{7,21 \text{ cm} \approx a}$$

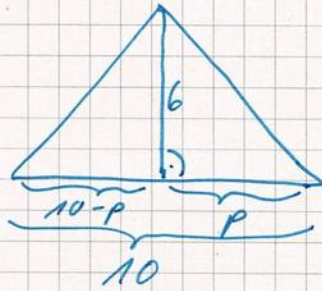
$$(6 \text{ cm})^2 + (9 \text{ cm})^2 = b^2$$

$$36 \text{ cm}^2 + 81 \text{ cm}^2 = b^2$$

$$117 \text{ cm}^2 = b^2 \quad | \sqrt{\quad}$$

$$\underline{10,82 \text{ cm} \approx b}$$

h)



$$(10-p) \cdot p = (3 \text{ cm})^2 \quad \text{Höhensatz}$$

$$10p - p^2 = 9$$

$$-p^2 + 10p - 9 = 0 \quad | \cdot (-1)$$

$$p^2 - 10p + 9 = 0$$

$$p = 5 \pm \sqrt{25 - 9}$$

$$p = 5 \pm \sqrt{16}$$

$$p = 5 \pm 4$$

$$p_1 = 1 \text{ cm}$$

$$p_2 = 9 \text{ cm}$$

Fall 1: $p = 1 \text{ cm}$

$$q + 1 \text{ cm} = 10 \text{ cm} \quad | - 1 \text{ cm}$$

$$q = 9 \text{ cm}$$

$$\begin{aligned} (9 \text{ cm})^2 + (6 \text{ cm})^2 &= b^2 \\ 81 \text{ cm}^2 + 36 \text{ cm}^2 &= b^2 \\ 117 \text{ cm}^2 &= b^2 \quad | \sqrt{} \\ 10,82 \text{ cm} &\approx b \end{aligned}$$

$$\begin{aligned} (1 \text{ cm})^2 + (6 \text{ cm})^2 &= a^2 \\ 1 \text{ cm}^2 + 36 \text{ cm}^2 &= a^2 \\ 37 \text{ cm}^2 &= a^2 \quad | \sqrt{} \\ 6,08 \text{ cm} &\approx a \end{aligned}$$

Fall 2: $p = 9 \text{ cm}$

$$q + 9 \text{ cm} = 10 \text{ cm} \quad | - 9 \text{ cm}$$

$$q = 1 \text{ cm}$$

$$\begin{aligned} (1 \text{ cm})^2 + (6 \text{ cm})^2 &= b^2 \\ 1 \text{ cm}^2 + 36 \text{ cm}^2 &= b^2 \\ 37 \text{ cm}^2 &= b^2 \quad | \sqrt{} \\ 6,08 \text{ cm} &\approx b \end{aligned}$$

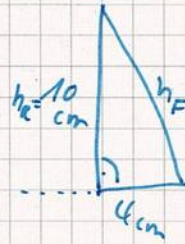
$$\begin{aligned} (9 \text{ cm})^2 + (6 \text{ cm})^2 &= a^2 \\ 81 \text{ cm}^2 + 36 \text{ cm}^2 &= a^2 \\ 117 \text{ cm}^2 &= a^2 \quad | \sqrt{} \\ 10,82 \text{ cm} &\approx a \end{aligned}$$

$$2a) \quad (10 \text{ cm})^2 + (4 \text{ cm})^2 = h_F^2$$

$$100 \text{ cm}^2 + 16 \text{ cm}^2 = h_F^2$$

$$116 \text{ cm}^2 = h_F^2 \quad | \sqrt{\quad}$$

$$\underline{10,77 \text{ cm} \approx h_F}$$



$$116 \text{ cm}^2 + (4 \text{ cm})^2 = s^2$$

$$116 \text{ cm}^2 + 16 \text{ cm}^2 = s^2$$

$$132 \text{ cm}^2 = s^2 \quad | \sqrt{\quad}$$

$$\underline{11,49 \text{ cm} \approx s}$$



$$G_1 = 8 \text{ cm} \cdot 8 \text{ cm}$$

$$\underline{G_1 = 64 \text{ cm}^2}$$

$$M = 4 \cdot \frac{1}{2} \cdot 8 \text{ cm} \cdot 10,77 \text{ cm}$$

$$\underline{M \approx 172,32 \text{ cm}^2}$$

$$\underline{O = G_1 + M = 236,32 \text{ cm}^2}$$

$$V = \frac{1}{3} \cdot G_1 \cdot h_R$$

$$= \frac{1}{3} \cdot 64 \text{ cm}^2 \cdot 10 \text{ cm}$$

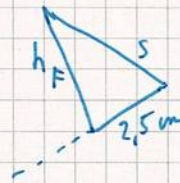
$$\underline{\approx 213,33 \text{ cm}^3}$$

$$b) \quad (2,5 \text{ cm})^2 + (7 \text{ cm})^2 = s^2$$

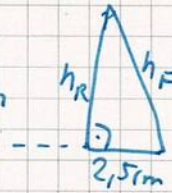
$$6,25 \text{ cm}^2 + 49 \text{ cm}^2 = s^2$$

$$55,25 \text{ cm}^2 = s^2 \quad | \sqrt{\quad}$$

$$\underline{7,43 \text{ cm} \approx s}$$



$$\begin{aligned}
 h_R^2 + (2,5 \text{ cm})^2 &= (7 \text{ cm})^2 \\
 h_R^2 + 6,25 \text{ cm}^2 &= 49 \text{ cm}^2 \quad | -6,25 \text{ cm}^2 \\
 h_R^2 &= 42,75 \text{ cm}^2 \quad | \sqrt{} \\
 \underline{h_R} &\approx \underline{6,54 \text{ cm}}
 \end{aligned}$$



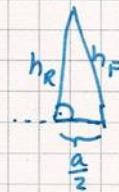
$$\begin{aligned}
 G &= 5 \text{ cm} \cdot 5 \text{ cm} \\
 \underline{G} &= \underline{25 \text{ cm}^2}
 \end{aligned}$$

$$\begin{aligned}
 M &= 4 \cdot \frac{1}{2} \cdot 5 \text{ cm} \cdot 7 \text{ cm} \\
 \underline{M} &= \underline{70 \text{ cm}^2}
 \end{aligned}$$

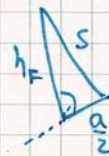
$$\underline{O} = G + M = \underline{95 \text{ cm}^2}$$

$$\begin{aligned}
 V &= \frac{1}{3} \cdot G \cdot h_R = \frac{1}{3} \cdot 25 \text{ cm}^2 \cdot 6,54 \text{ cm} \\
 \underline{V} &= \underline{54,5 \text{ cm}^3}
 \end{aligned}$$

$$\begin{aligned}
 \text{c) } (6,4 \text{ cm})^2 + \left(\frac{a}{2}\right)^2 &= (6,8 \text{ cm})^2 \\
 40,96 \text{ cm}^2 + \left(\frac{a}{2}\right)^2 &= 46,24 \text{ cm}^2 \quad | -40,96 \text{ cm}^2 \\
 \left(\frac{a}{2}\right)^2 &= 5,28 \text{ cm}^2 \quad | \sqrt{} \\
 \frac{a}{2} &\approx 2,3 \text{ cm} \quad | \cdot 2 \\
 \underline{a} &= \underline{4,60 \text{ cm}}
 \end{aligned}$$



$$\begin{aligned}
 (6,8 \text{ cm})^2 + 5,28 \text{ cm}^2 &= s^2 \\
 46,24 \text{ cm}^2 + 5,28 \text{ cm}^2 &= s^2 \\
 51,52 \text{ cm}^2 &= s^2 \quad | \sqrt{} \\
 \underline{7,18 \text{ cm}} &\approx \underline{s}
 \end{aligned}$$



$$G_1 = 4,6 \text{ cm} \cdot 4,6 \text{ cm}$$

$$\underline{G_1 = 21,16 \text{ cm}^2}$$

$$M = 4 \cdot \frac{1}{2} \cdot 4,6 \text{ cm} \cdot 6,8 \text{ cm}$$

$$\underline{M = 62,56 \text{ cm}^2}$$

$$\underline{Q = G_1 + M = 83,72 \text{ cm}^2}$$

$$V = \frac{1}{3} \cdot G_1 \cdot h_R$$

$$V = \frac{1}{3} \cdot 21,16 \text{ cm}^2 \cdot 6,4 \text{ cm}$$

$$\underline{V \approx 45,14 \text{ cm}^3}$$

d)

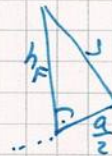
$$(10 \text{ cm})^2 + \left(\frac{a}{2}\right)^2 = (12 \text{ cm})^2$$

$$100 \text{ cm}^2 + \left(\frac{a}{2}\right)^2 = 144 \text{ cm}^2 \quad | -100 \text{ cm}^2$$

$$\left(\frac{a}{2}\right)^2 = 44 \text{ cm}^2 \quad | \sqrt{\quad}$$

$$\frac{a}{2} \approx 6,63 \text{ cm} \quad | \cdot 2$$

$$\underline{a \approx 13,26 \text{ cm}}$$

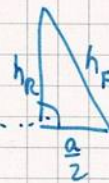


$$h_R^2 + 44 \text{ cm}^2 = (10 \text{ cm})^2$$

$$h_R^2 + 44 \text{ cm}^2 = 100 \text{ cm}^2 \quad | -44 \text{ cm}^2$$

$$h_R^2 = 56 \text{ cm}^2 \quad | \sqrt{\quad}$$

$$\underline{h_R \approx 7,48 \text{ cm}}$$



$$\underline{G_1} = 13,26 \text{ cm} \cdot 13,26 \text{ cm} = \underline{175,8276 \text{ cm}^2}$$

$$\underline{M} = 4 \cdot \frac{1}{2} \cdot 13,26 \text{ cm} \cdot 10 \text{ cm} = \underline{265,2 \text{ cm}^2}$$

$$\underline{Q} = G_1 + M = \underline{441,0276 \text{ cm}^2}$$

$$V = \frac{1}{3} \cdot G \cdot h$$

$$V = \frac{1}{3} \cdot 175,8276 \text{ cm}^2 \cdot 7,48 \text{ cm}$$

$$\underline{V \approx 438,4 \text{ cm}^3}$$

e)

$$G = a^2$$

$$36 \text{ cm}^2 = a^2 \quad | \sqrt{\quad}$$

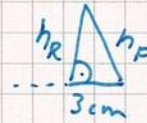
$$\underline{6 \text{ cm} = a}$$

$$(10 \text{ cm})^2 + (3 \text{ cm})^2 = h_F^2$$

$$100 \text{ cm}^2 + 9 \text{ cm}^2 = h_F^2$$

$$109 \text{ cm}^2 = h_F^2 \quad | \sqrt{\quad}$$

$$\underline{10,44 \text{ cm} \approx h_F}$$

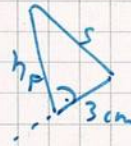


$$109 \text{ cm}^2 + (3 \text{ cm})^2 = s^2$$

$$109 \text{ cm}^2 + 9 \text{ cm}^2 = s^2$$

$$118 \text{ cm}^2 = s^2 \quad | \sqrt{\quad}$$

$$\underline{10,86 \text{ cm} \approx s}$$



$$M = 4 \cdot \frac{1}{2} \cdot a \cdot h_F$$

$$M = 4 \cdot \frac{1}{2} \cdot 6 \text{ cm} \cdot 10,44 \text{ cm}$$

$$\underline{M = 125,28 \text{ cm}^2}$$

$$\underline{O = G + M = 161,28 \text{ cm}^2}$$

$$\underline{V = \frac{1}{3} \cdot G \cdot h_R = \frac{1}{3} \cdot 36 \text{ cm}^2 \cdot 10 \text{ cm} = 120 \text{ cm}^3}$$

1)

$$G = 8 \text{ cm} \cdot 8 \text{ cm}$$

$$G = 64 \text{ cm}^2$$

$$V = \frac{1}{3} \cdot G \cdot h_R$$

$$256 \text{ cm}^3 = \frac{1}{3} \cdot 64 \text{ cm}^2 \cdot h_R$$

$$256 \text{ cm}^3 = 21,3 \text{ cm}^2 \cdot h_R \quad | : 21,3 \text{ cm}^2$$

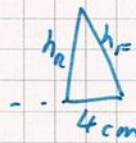
$$\underline{12 \text{ cm} = h_R}$$

$$(4 \text{ cm})^2 + (12 \text{ cm})^2 = h_F^2$$

$$16 \text{ cm}^2 + 144 \text{ cm}^2 = h_F^2$$

$$160 \text{ cm}^2 = h_F^2 \quad |\sqrt{\quad}$$

$$\underline{12,65 \text{ cm} = h_F}$$

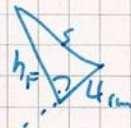


$$160 \text{ cm}^2 + (4 \text{ cm})^2 = s^2$$

$$160 \text{ cm}^2 + 16 \text{ cm}^2 = s^2$$

$$176 \text{ cm}^2 = s^2 \quad |\sqrt{\quad}$$

$$\underline{13,27 \text{ cm} = s}$$

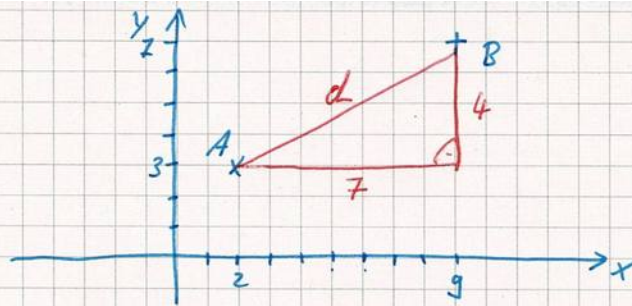


$$M = 4 \cdot \frac{1}{2} \cdot 8 \text{ cm} \cdot 12,65 \text{ cm}$$

$$\underline{M = 202,4 \text{ cm}^2}$$

$$\underline{O = G + M = 266,4 \text{ cm}^2}$$

3a)



$$d^2 = (9-2)^2 + (7-3)^2$$

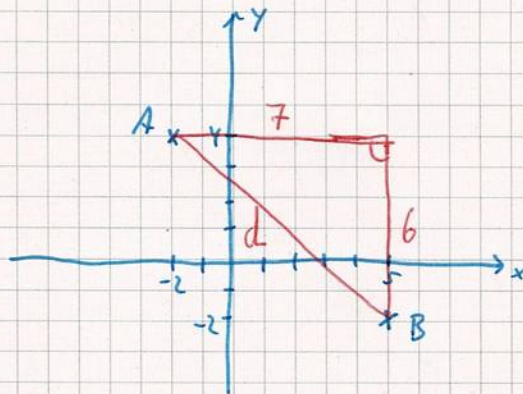
$$d^2 = 7^2 + 4^2$$

$$d^2 = 49 + 16$$

$$d^2 = 65 \quad |\sqrt{\quad}$$

$$\underline{d \approx 8,06 \text{ LE}} \quad (\text{Längeneinheiten})$$

b)



$$d^2 = (5-(-2))^2 + (4-(-2))^2$$

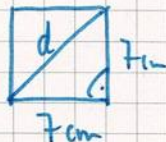
$$d^2 = 7^2 + 6^2$$

$$d^2 = 49 + 36$$

$$d^2 = 85 \quad |\sqrt{\quad}$$

$$\underline{d \approx 9,22 \text{ LE}}$$

4a)



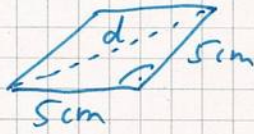
$$d^2 = (7 \text{ cm})^2 + (7 \text{ cm})^2$$

$$d^2 = 49 \text{ cm}^2 + 49 \text{ cm}^2$$

$$d^2 = 98 \text{ cm}^2 \quad |\sqrt{\quad}$$

$$\underline{d = 9,9 \text{ cm}}$$

b)

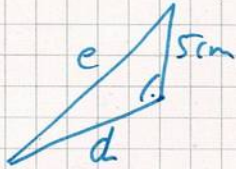


$$d^2 = (5 \text{ cm})^2 + (5 \text{ cm})^2$$

$$d^2 = 25 \text{ cm}^2 + 25 \text{ cm}^2$$

$$d^2 = 50 \text{ cm}^2 \quad \sqrt{\quad}$$

$$d \approx 7,07 \text{ cm}$$



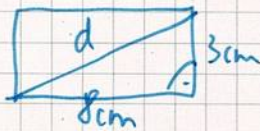
$$e^2 = d^2 + (5 \text{ cm})^2$$

$$e^2 = 50 \text{ cm}^2 + 25 \text{ cm}^2$$

$$e^2 = 75 \text{ cm}^2 \quad \sqrt{\quad}$$

$$e \approx \underline{8,66 \text{ cm}}$$

c)



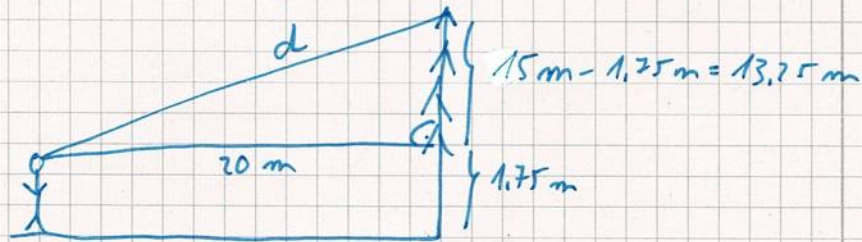
$$d^2 = (8 \text{ cm})^2 + (3 \text{ cm})^2$$

$$d^2 = 64 \text{ cm}^2 + 9 \text{ cm}^2$$

$$d^2 = 73 \text{ cm}^2 \quad \sqrt{\quad}$$

$$d \approx \underline{8,54 \text{ cm}}$$

5)



$$d^2 = (20 \text{ m})^2 + (13,25 \text{ m})^2$$

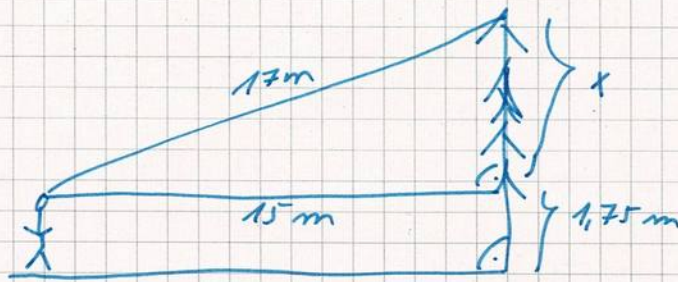
$$d^2 = 400 \text{ m}^2 + 175,5625 \text{ m}^2$$

$$d^2 = 575,5625 \text{ m}^2 \quad \sqrt{\quad}$$

$$d \approx \underline{23,99 \text{ m}}$$

Die Entfernung beträgt 23,99 m.

6)

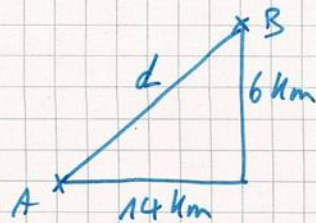


$$\begin{aligned}(15 \text{ m})^2 + x^2 &= (17 \text{ m})^2 \\ 225 \text{ m}^2 + x^2 &= 289 \text{ m}^2 \quad | -225 \text{ m}^2 \\ x^2 &= 64 \text{ m}^2 \quad | \sqrt{} \\ \underline{x} &= \underline{8 \text{ m}}\end{aligned}$$

$$\text{Höhe} = 8 \text{ m} + 1,75 \text{ m} = \underline{9,75 \text{ m}}$$

Der Baum ist 9,75 m hoch.

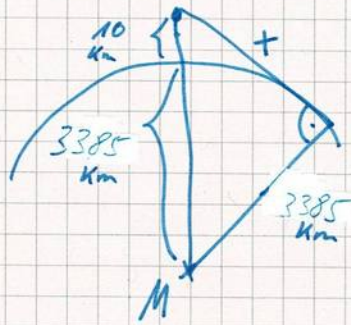
7)



$$\begin{aligned}d^2 &= (14 \text{ km})^2 + (6 \text{ km})^2 \\ d^2 &= 196 \text{ km}^2 + 36 \text{ km}^2 \\ d^2 &= 232 \text{ km}^2 \quad | \sqrt{} \\ \underline{d} &= \underline{15,23 \text{ km}}\end{aligned}$$

Die Orte sind per Luftlinie ca. 15,23 km voneinander entfernt.

8)



zu beachten: Durchmesser 6770 km
benutzt wird aber der Radius
 $\Rightarrow r = \frac{6770}{2} \text{ km} = 3385 \text{ km}$

$$\begin{aligned} (3385 \text{ km})^2 + x^2 &= (3395 \text{ km})^2 \\ 11458225 \text{ km}^2 + x^2 &= 11526025 \text{ km}^2 \quad | - 11458225 \text{ km}^2 \\ x^2 &= 67800 \text{ km}^2 \quad | \sqrt{} \\ x &= \underline{260,38 \text{ km}} \end{aligned}$$

Er kann 260,38 km weit sehen.

9a) $V = \frac{1}{3} \cdot G \cdot h_R$ $G = 209 \text{ m} \cdot 209 \text{ m}$
 $G = 43681 \text{ m}^2$

$$V = \frac{1}{3} \cdot 43681 \text{ m}^2 \cdot 136 \text{ m}$$

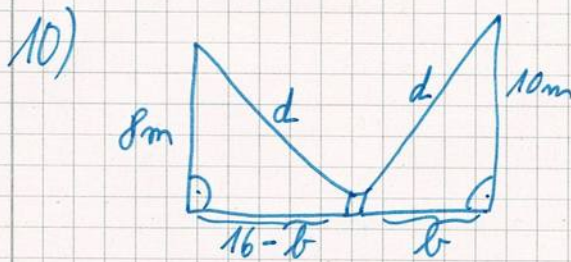
$$V = 1980205,3 \text{ m}^3$$

b) $1980205,3 \text{ m}^3$
 $= 1980205333,3 \text{ dm}^3$
 $= 1980205333333,3 \text{ cm}^3$

$$\begin{aligned} \text{Gewicht} &= 1980205333333,3 \cdot 2,5 \\ &= 4950513333333,3 \text{ g} \end{aligned}$$

$$= 4.950.513.333,3 \text{ Kg}$$

$$= 4.950.513,3 \text{ t}$$



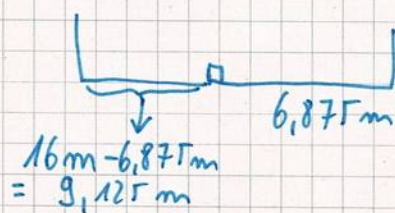
$$(16-b)^2 + (8\text{m})^2 = \underline{\underline{d^2}}$$

(Dreieck links)

$$b^2 + (10\text{m})^2 = \underline{\underline{d^2}}$$

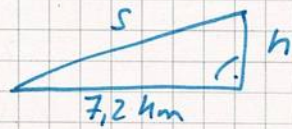
(Dreieck rechts)

$$\begin{aligned} (16-b)^2 + (8)^2 &= b^2 + (10)^2 \\ (16-b)^2 + 64 &= b^2 + 100 && | \text{ Bin. Formel} \\ 256 - 32b + b^2 + 64 &= b^2 + 100 && | -b^2 \\ \underline{256 - 32b + 64} &= 100 && \\ 320 - 32b &= 100 && | -320 \text{ m}^2 \\ -32b &= -220 && | : (-32) \\ \underline{b} &= \underline{6,875 \text{ m}} \end{aligned}$$



Der Brunnen ist 6,875 m vom rechten und 9,125 m vom linken Turm entfernt.

11)



6% Steigung



$$\Rightarrow \underline{h = 432 \text{ m} = 0,432 \text{ km}}$$

$$(7,2 \text{ km})^2 + (0,432 \text{ km})^2 = s^2$$

$$51,84 \text{ km}^2 + 0,186624 \text{ km}^2 = s^2$$

$$52,026624 \text{ km}^2 = s^2 \quad | \sqrt{\quad}$$

$$\underline{7,21 \text{ km} \approx s}$$