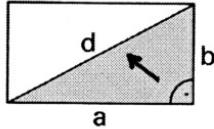


Satz des Pythagoras : Erste Anwendungen

1. $a = 8\text{cm}$, $b = 5\text{cm}$, $d = ?$



$$d^2 = a^2 + b^2$$

$$d = \sqrt{a^2 + b^2}$$

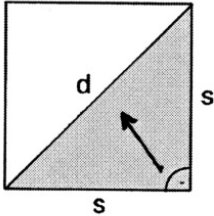
$$d = \sqrt{a^2 + b^2}$$

$$= \sqrt{8^2 + 5^2}$$

$$= \sqrt{64 + 25}$$

$$= \sqrt{89\text{ cm}} \hat{=} \underline{\underline{9,4\text{ cm}}}$$

2. $s = 25\text{cm}$, $d = ?$



$$d^2 = s^2 + s^2 = 2s^2$$

$$d = \sqrt{2s^2}$$

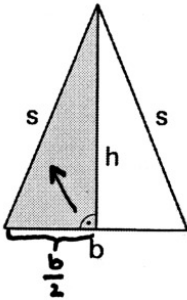
$$d = \sqrt{2s^2}$$

$$= \sqrt{2 \cdot 25^2}$$

$$= \sqrt{2 \cdot 625}$$

$$= \sqrt{1'250\text{ cm}} \hat{=} \underline{\underline{35,4\text{ cm}}}$$

3. $s = 18\text{cm}$, $b = 10\text{cm}$, $h = ?$



$$s^2 = h^2 + \left(\frac{b}{2}\right)^2$$

$$= h^2 + \frac{b^2}{4}$$

$$\rightarrow h^2 = s^2 - \frac{b^2}{4}$$

$$h = \sqrt{s^2 - \frac{b^2}{4}}$$

$$h = \sqrt{s^2 - \frac{b^2}{4}}$$

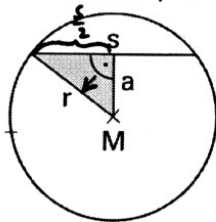
$$= \sqrt{18^2 - \frac{10^2}{4}}$$

$$= \sqrt{324 - \frac{100}{4}}$$

$$= \sqrt{324 - 25}$$

$$= \sqrt{299\text{ cm}} \hat{=} \underline{\underline{17,3\text{ cm}}}$$

4. $r = 30\text{cm}$, $s = 20\text{cm}$, $a = ?$



$$r^2 = a^2 + \left(\frac{s}{2}\right)^2$$

$$= a^2 + \frac{s^2}{4}$$

$$\rightarrow a^2 = r^2 - \frac{s^2}{4}$$

$$a = \sqrt{r^2 - \frac{s^2}{4}}$$

$$a = \sqrt{r^2 - \frac{s^2}{4}}$$

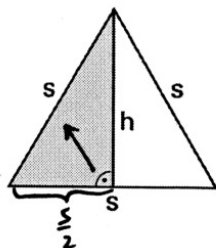
$$= \sqrt{30^2 - \frac{20^2}{4}}$$

$$= \sqrt{900 - \frac{400}{4}}$$

$$= \sqrt{900 - 100}$$

$$= \sqrt{800\text{ cm}} \hat{=} \underline{\underline{28,3\text{ cm}}}$$

5. $s = 40\text{cm}$, $h = ?$



$$s^2 = h^2 + \left(\frac{s}{2}\right)^2$$

$$= h^2 + \frac{s^2}{4}$$

$$\rightarrow h^2 = s^2 - \frac{s^2}{4}$$

$$= \frac{4s^2}{4} - \frac{1s^2}{4}$$

$$= \frac{3s^2}{4}$$

$$h = \sqrt{\frac{3s^2}{4}}$$

$$h = \sqrt{\frac{3s^2}{4}}$$

$$= \sqrt{\frac{3 \cdot 40^2}{4}}$$

$$= \sqrt{\frac{3 \cdot 1'600}{4}}$$

$$= \sqrt{1'200\text{ cm}} \hat{=} \underline{\underline{34,6\text{ cm}}}$$