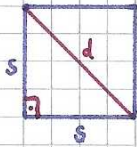


DER SATZ DES PYTHAGORAS

LÖSUNGEN ÜBUNG 2

1. PYTHAGORAS IM QUADRAT



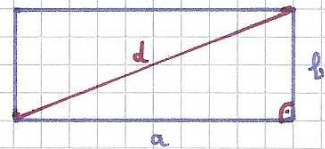
$$d^2 = s^2 + s^2 \xrightarrow{\text{UMFORMUNG}} d = s \cdot \sqrt{2} \quad \text{oder} \quad \frac{d}{\sqrt{2}} = s$$

Also: $s = \frac{15}{\sqrt{2}} = 10,61 \text{ cm}$ $A = s^2$ $U = 4 \cdot s = \underline{\underline{42,43 \text{ cm}}}$

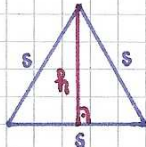
2. PYTHAGORAS IM RECHTECK

Rechteck 1: $d = \sqrt{a^2 + b^2} = \underline{\underline{14,47 \text{ cm}}}$
 $U = 2a + 2b = \underline{\underline{40 \text{ cm}}}$
 $A = a \cdot b = \underline{\underline{96 \text{ cm}^2}}$

Rechteck 2: $b = (U - 2a) : 2 = \underline{\underline{6 \text{ cm}}}$
 $d = \sqrt{a^2 + b^2} = \underline{\underline{11,66 \text{ cm}}}$
 $A = a \cdot b = \underline{\underline{60 \text{ cm}^2}}$

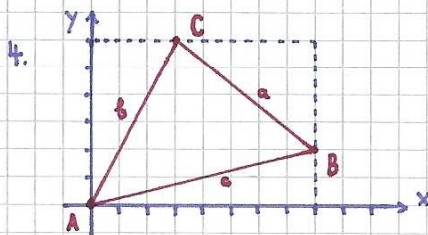


3. PYTHAGORAS IM GLEICHSEITIGEN DREIECK



$$h^2 = s^2 - \left(\frac{s}{2}\right)^2 = 20^2 - 10^2 = 300 \quad | \sqrt{\quad}$$

$$h = \underline{\underline{17,32 \text{ cm}}}$$



$$a = \sqrt{4^2 + 5^2} = 6,40 \text{ cm}$$

$$b = \sqrt{3^2 + 6^2} = 6,71 \text{ cm}$$

$$c = \sqrt{8^2 + 2^2} = 8,25 \text{ cm}$$

$$U = a + b + c = \underline{\underline{21,36 \text{ cm}}}$$

5. a. KREIS / THALESKREIS

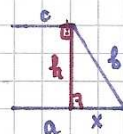
$$\overline{AB} = 10 \text{ cm}$$

$$\overline{BC} = 6 \text{ cm}$$

$$\overline{AC} = \sqrt{10^2 - 6^2} = 8 \text{ cm}$$

$$\text{Fläche } A = \frac{8 \cdot 6}{2} = 48 \text{ cm}^2 : 2 = \underline{\underline{24 \text{ cm}^2}}$$

b. GLEICHSCHENKLIGES TRAPEZ



$$x = (a - c) : 2 = 2 \text{ cm}$$

$$b = \sqrt{x^2 + h^2} = \sqrt{2^2 + 5^2} = 5,39 \text{ cm}$$

$$U = a + c + 2 \cdot b = \underline{\underline{26,77 \text{ cm}}}$$

$$A = \frac{a+c}{2} \cdot h = 8 \cdot 5 = \underline{\underline{40 \text{ cm}^2}}$$