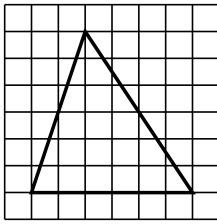
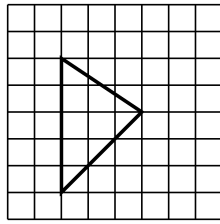


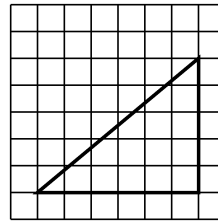
1.



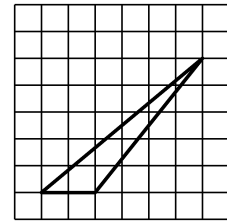
$$\frac{6 \cdot 6}{2} = 18 \text{ H}$$



$$\frac{5 \cdot 3}{2} = 7.5 \text{ H}$$



$$\frac{6 \cdot 5}{2} = 15 \text{ H}$$



$$\frac{2 \cdot 5}{2} = 5 \text{ H}$$

$$2. \quad A = \frac{a \cdot h_a}{2} = \frac{4 \text{ cm} \cdot 3 \text{ cm}}{2} = 6 \text{ cm}^2$$

$$3. \quad A = \frac{c \cdot h_c}{2} = \frac{24.5 \text{ m} \cdot 17.8 \text{ m}}{2} = 218.05 \text{ m}^2$$

$$4. \quad A = \frac{a \cdot h_a}{2} \Leftrightarrow h_a = \frac{2 \cdot A}{a} = \frac{2 \cdot 58.9 \text{ m}^2}{12.4 \text{ m}} = 9.5 \text{ m}$$

$$5. \quad b = \frac{2 \cdot A}{h_b} = \frac{2 \cdot 8.5 \text{ cm}^2}{6.8 \text{ cm}} = 2.5 \text{ cm}$$

$$6. \quad A = \frac{b \cdot h_b}{2} = \frac{2.4 \text{ dm} \cdot 5.2 \text{ dm}}{2} = 6.24 \text{ dm}^2$$

$$h_c = \frac{2 \cdot A}{c} = \frac{2 \cdot 6.24 \text{ dm}^2}{3.9 \text{ dm}} = 3.2 \text{ dm}$$

$$7. \quad A = \frac{a \cdot b}{2} = \frac{5 \text{ cm} \cdot 8 \text{ cm}}{2} = 20 \text{ cm}^2$$

$$8. \quad A = \frac{75 \text{ m} \cdot 84 \text{ m}}{2} = 3150 \text{ m}^2$$

$$b = \frac{A}{l} = \frac{3150 \text{ m}^2}{63 \text{ m}} = 50 \text{ m}$$

$$9. \quad A_R = 6 \text{ cm} \cdot 8 \text{ cm} = 48 \text{ cm}^2$$

$$A_{D_1} = \frac{2 \text{ cm} \cdot 5 \text{ cm}}{2} = 5 \text{ cm}^2$$

$$A_{D_2} = \frac{3 \text{ cm} \cdot 6 \text{ cm}}{2} = 9 \text{ cm}^2$$

$$A_D = 48 \text{ cm}^2 - 5 \text{ cm}^2 - 9 \text{ cm}^2 = 34 \text{ cm}^2$$

$$10. \quad A_R = 8.4 \text{ cm} \cdot 7 \text{ cm} = 58.8 \text{ cm}^2$$

$$A_{D_1} = \frac{3.8 \text{ cm} \cdot 7 \text{ cm}}{2} = 13.3 \text{ cm}^2$$

$$A_{D_2} = 11.5 \text{ cm}^2 \Rightarrow b_2 = \frac{2 \cdot A_{D_2}}{a_2} = \frac{2 \cdot 11.5 \text{ cm}^2}{8.4 \text{ cm} - 3.8 \text{ cm}} = \frac{23 \text{ cm}^2}{4.6 \text{ cm}} = 5 \text{ cm}$$

$$A_{D_3} = \frac{(7 \text{ cm} - 5 \text{ cm}) \cdot 8.4 \text{ cm}}{2} = 8.4 \text{ cm}^2$$

$$A = A_R - A_{D_1} - A_{D_2} - A_{D_3} = 25.6 \text{ cm}^2$$

$$11. \quad (a) \quad s = \frac{4 \text{ cm} + 13 \text{ cm} + 15 \text{ cm}}{2} = 16 \text{ cm}$$

$$A = \sqrt{16 \cdot 12 \cdot 3 \cdot 1} \text{ cm}^2 = \sqrt{576} \text{ cm}^2 = \mathbf{24 \text{ cm}^2}$$

$$(b) \quad s = \frac{5 \text{ mm} + 5 \text{ mm} + 8 \text{ mm}}{2} = 9 \text{ mm}$$

$$A = \sqrt{9 \cdot 4 \cdot 4 \cdot 1} \text{ mm}^2 = \sqrt{144} \text{ mm}^2 = \mathbf{12 \text{ mm}^2}$$

$$(c) \quad s = \frac{6 \text{ m} + 25 \text{ m} + 29 \text{ m}}{2} = 30 \text{ m}$$

$$A = \sqrt{30 \cdot 24 \cdot 5 \cdot 1} \text{ m}^2 = \sqrt{3600} \text{ m}^2 = \mathbf{60 \text{ m}^2}$$

$$(d) \quad s = \frac{8 \text{ cm} + 8 \text{ cm} + 8 \text{ cm}}{2} = 12 \text{ cm}$$

$$A = \sqrt{12 \cdot 4 \cdot 4 \cdot 4} \text{ cm}^2 = \sqrt{768} \text{ cm}^2 = \mathbf{27.71 \text{ cm}^2}$$

$$(e) \quad s = \frac{5 \text{ dm} + 4 \text{ dm} + 9 \text{ dm}}{2} = 9 \text{ dm}$$

$$A = \sqrt{9 \cdot 4 \cdot 5 \cdot 0} \text{ dm}^2 = \sqrt{0} \text{ dm}^2 = \mathbf{0 \text{ dm}^2}$$

$$(f) \quad s = \frac{3 \text{ cm} + 7 \text{ cm} + 2 \text{ cm}}{2} = 6 \text{ cm}$$

$$A = \sqrt{6 \cdot 3 \cdot (-1) \cdot 4} \text{ cm}^2 = \sqrt{-72} \text{ cm}^2 \Rightarrow \mathbf{\text{kein Dreieck!}}$$

$$12. \quad 2x + 3x = 5x = 30 \text{ cm} \Rightarrow x = 6 \text{ cm} \Rightarrow \begin{aligned} |DT| &= 12 \text{ cm} \\ |CT| &= 18 \text{ cm} \end{aligned}$$

$$|AD| = \frac{2 \cdot 54 \text{ cm}^2}{12 \text{ cm}} = 9 \text{ cm}$$

$$A_{ABCD} = 9 \text{ cm} \cdot 30 \text{ cm} = 270 \text{ cm}^2$$

$$\begin{aligned} A_{AST} &= A_{ABCD} - A_{ATD} - A_{SBCT} \\ &= 270 \text{ cm}^2 - 54 \text{ cm}^2 - 126 \text{ cm}^2 \\ &= 90 \text{ cm}^2 \end{aligned}$$

$$|AS| = \frac{2 \cdot A_{AST}}{|AD|} = \frac{2 \cdot 90 \text{ cm}^2}{9 \text{ cm}} = \mathbf{20 \text{ cm}}$$