

LÖSUNGEN

1a) Figur 1 : gleichseitiges Dreieck

Figur 2 : Parallelogramm

" 3 : Trapez

" 4 : Drachenviereck

" 5 : Trapez

" 6 : Quadrat

" 7 : rechtwinkliges Dreieck

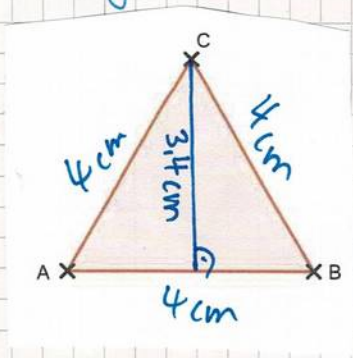
" 8 : Raute

" 9 : Drachenviereck

" 10 : Rechteck

b) Figur 1: $A = \frac{1}{2} \cdot 4 \cdot 3,4 = 6,8 \text{ cm}^2$

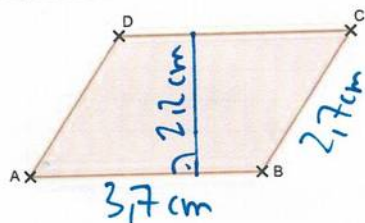
$$U = 3 \cdot 4 = 12 \text{ cm}$$



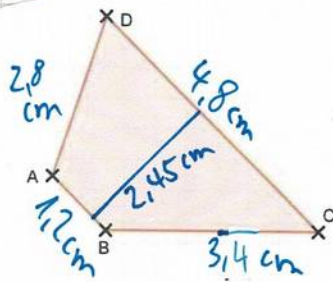
Figur 2:

$$A = 3,7 \cdot 2,2 = 8,14 \text{ cm}^2$$

$$U = 2 \cdot 3,7 + 2 \cdot 2,7 = 12,8 \text{ cm}$$



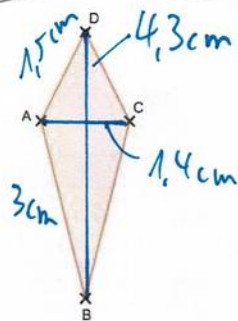
Figur 3:



$$A = \frac{1}{2} \cdot (4,8 + 1,2) \cdot 2,45 = 7,35 \text{ cm}^2$$

$$U = 4,8 + 2,8 + 1,2 + 3,4 = 12,2 \text{ cm}$$

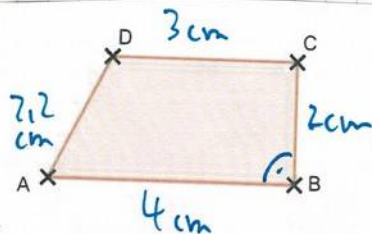
Figur 4:



$$A = \frac{1}{2} \cdot 1,4 \cdot 4,3 = 3,01 \text{ cm}^2$$

$$U = 2 \cdot 3 + 2 \cdot 1,5 = 9 \text{ cm}$$

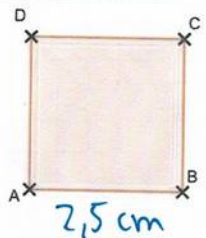
Figur 5:



$$A = \frac{1}{2} \cdot (4 + 3) \cdot 2 = 7 \text{ cm}^2$$

$$U = 4 + 2 + 3 + 2,2 = 11,2 \text{ cm}$$

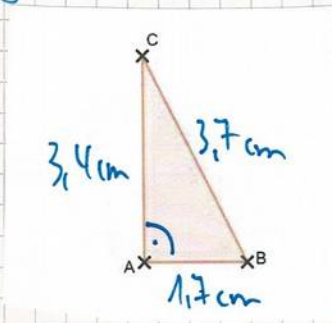
Figur 6:



$$A = 2,5 \cdot 2,5 = 6,25 \text{ cm}^2$$

$$U = 4 \cdot 2,5 = 10 \text{ cm}$$

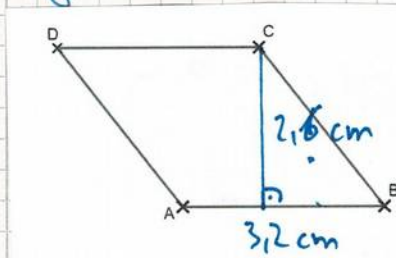
Figur 7:



$$A = \frac{1}{2} \cdot 1,7 \cdot 3,4 = 2,89 \text{ cm}^2$$

$$U = 1,7 + 3,4 + 3,7 = 8,8 \text{ cm}$$

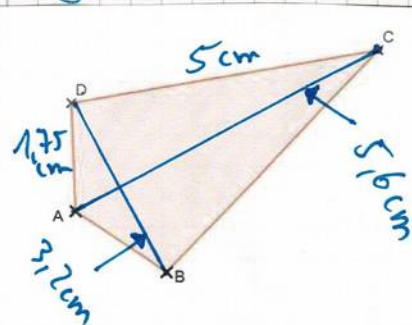
Figur 8:



$$A = 3,2 \cdot 2,6 = 8,32 \text{ cm}^2$$

$$U = 4 \cdot 3,2 = 12,8 \text{ cm}$$

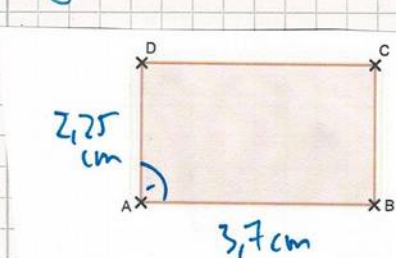
Figur 9:



$$A = \frac{1}{2} \cdot 5,6 \cdot 3,2 = 8,96 \text{ cm}^2$$

$$U = 2 \cdot 5 + 2 \cdot 1,75 = 13,5 \text{ cm}$$

Figur 10:



$$A = 3,7 \cdot 2,25 = 8,325 \text{ cm}^2$$

$$U = 2 \cdot 3,7 + 2 \cdot 2,25 = 11,9 \text{ cm}$$

- 2)
- (a) wahr
 - (b) falsch
 - (c) wahr
(z.B. Quadrate bzw. Rechtecke)
 - (d) wahr
 - (e) wahr
 - (f) wahr
 - (g) wahr
(z.B. Dreieck)
 - (h) falsch
(Winkel sind alle 60° groß)

3a)

$$A = a \cdot h_a$$

$$A = 6 \cdot 3 = 18 \text{ cm}^2$$

$$U = 2 \cdot a + 2 \cdot b$$

$$= 12 + 6,32$$

$$= 18,32 \text{ cm}$$

$$A = b \cdot h_b$$

$$18 = 3,16 \cdot h_b \quad | : 3,16$$

$$5,7 \text{ cm} = h_b$$

b)

$$A = a \cdot h_a$$

$$13 = 5 \cdot h_a \quad | : 5$$

$$2,6 \text{ cm} = h_a$$

$$A = b \cdot h_b$$

$$13 = 3 \cdot h_b \quad | : 3$$

$$4,3 \text{ cm} = h_b$$

$$U = 2a + 2b$$

$$16 = 2 \cdot 5 + 2 \cdot b$$

$$16 = 10 + 2b \quad | -10$$

$$6 = 2b \quad | : 2$$

$$3 \text{ cm} = b$$

$$d) A = a \cdot h_a$$
$$27 = a \cdot 4,5 \quad | : 4,5$$

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

$$A = b \cdot h_b$$

$$27 = b \cdot 5,5 \quad | : 5,5$$

$$4,91 \text{ cm} \approx b$$

$$U = 2a + 2b$$

$$U = 2 \cdot 6 + 2 \cdot 4,91$$

$$U = 12 + 9,82$$

$$U = 21,82 \text{ cm}$$

$$d) A = a \cdot h_a$$

$$A = 4 \cdot 4$$

$$A = 16 \text{ cm}^2$$

$$A = b \cdot h_b$$

$$16 = 4,5 \cdot h_b \quad | : 4,5$$

$$3,5 \text{ cm} = h_b$$

$$U = 2a + 2b$$

$$17 = 2 \cdot 4 + 2b$$

$$17 = 8 + 2b \quad | - 8$$

$$9 = 2b \quad | : 2$$

$$4,5 \text{ cm} = b$$

$$e) A = a \cdot h_a$$

$$5 = 5 \cdot h_a \quad | : 5$$

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

$$A = b \cdot h_b$$

$$5 = 1,41 \cdot h_b \quad | : 1,41$$

$$3,55 \text{ cm} = h_b$$

$$U = 2a + 2b$$

$$U = 2 \cdot 5 + 2 \cdot 1,41$$

$$U = 10 + 2,82$$

$$U = 12,82 \text{ cm}$$

$$4a) A = \frac{1}{2} \cdot (a+c) \cdot h_a$$

$$A = \frac{1}{2} \cdot (8+4) \cdot 2 = 12 \text{ cm}^2$$

$$U = a+b+c+d = 8+2,2+4+3,6 = 17,8 \text{ cm}$$

$$b) U = a+b+c+d$$

$$14,2 = 5+2,5+4+d$$

$$14,2 = 11,5 + d \quad | -11,5$$

$$2,7 \text{ cm} = d$$

$$A = \frac{1}{2} \cdot (a+c) \cdot h_a$$

$$11,25 = \frac{1}{2} \cdot (5+4) \cdot h_a$$

$$11,25 = 0,5 \cdot 9 \cdot h_a$$

$$11,25 = 4,5 \cdot h_a \quad | : 4,5$$

$$2,5 \text{ cm} = h_a$$

$$c) A = \frac{1}{2} \cdot (a+c) \cdot h_a$$

$$10 = 0,5 \cdot (5+c) \cdot 2,5$$

$$10 = 0,5 \cdot 2,5 \cdot (5+c)$$

$$10 = 1,25 \cdot (5+c) \quad | : 1,25$$

$$8 = 5+c \quad | -5$$

$$3 \text{ cm} = c$$

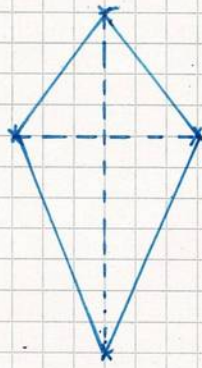
$$U = a+b+c+d$$

$$U = 5+2,92+3+2,55$$

$$U = 13,47 \text{ cm}$$

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5)



Anleitung: zuerst die Diagonalen zeichnen
(die eine Diagonale halbiert die andere);
dann Punkte verbinden

6)



Anleitung: zuerst die Diagonalen zeichnen
(Diagonalen halbieren sich gegenseitig),
dann Punkte verbinden

7)

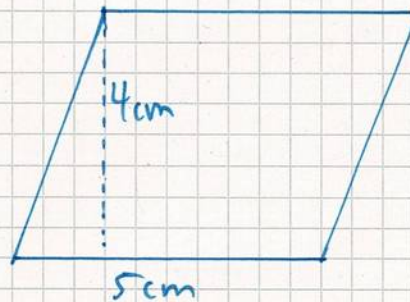
eine Seitenlänge festlegen:
5cm

dann Höhe ausrechnen:

$$A = a \cdot h_a$$

$$20 = 5 \cdot h_a \quad | :5$$

$$4\text{cm} = h_a$$



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