

## Validation for fifth-grade pupils in math geometry – tasks and solution

In the text are written original sentences written in German, as is written in the book and there is also an English translation.

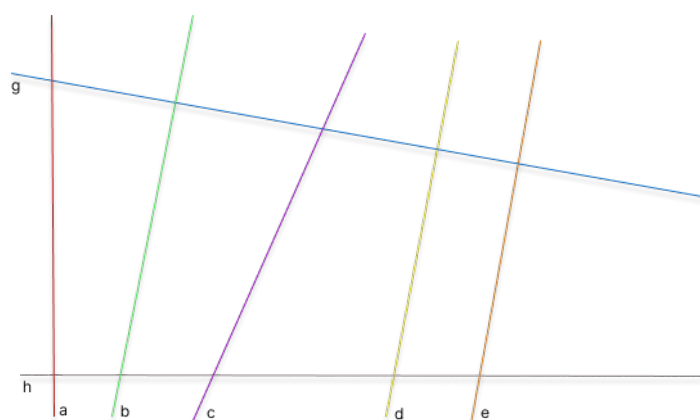
In the evaluation form, it will be always written the original sentence first and the English translation.

1. Welche der Geraden sind zueinander senkrecht? Prüfe mit dem Geodreieck.

Beispiel:  $a \perp g$ .

Which of the lines are perpendicular to each other? Check with the triangle ruler.

Example:  $a \perp g$ .

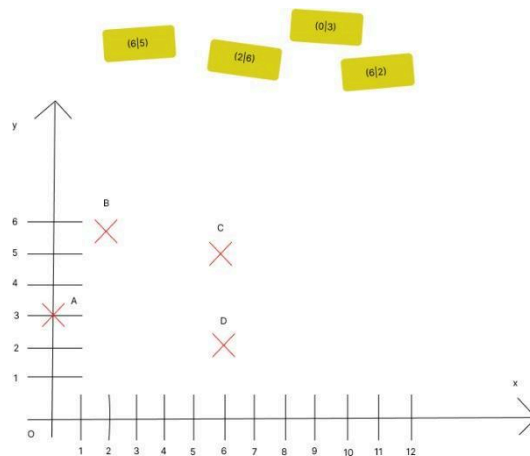


Solution:

$a \perp h$  and  $b \perp h$ .

2. Ordne die Kärtchen den abgebildeten Punkten zu.

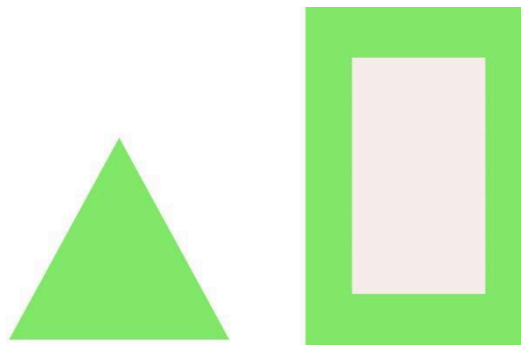
Arrange the cards to the shown dots.



Solution:

A(0|3), B(2|6), C(6|5) and D(6|2).

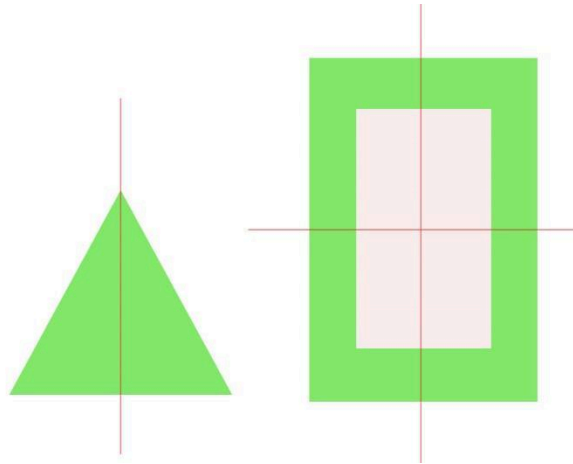
3. Übertrage die Figuren ins Heft und zeichne die Symmetrieachsen ein.  
Transfer the figures into your notebook and mark the axes of symmetry.



Solution:

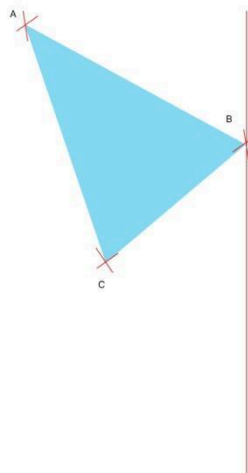
Die linke Figur hat eine Symmetrieachse. Die rechte Figur hat zwei Symmetrieachsen.

The left figure has one axis of symmetry. The right figure has two axes of symmetry.



4. Ergänze die Figur zu einer achsensymmetrischen Figur. Die rote Gerade ist die Symmetrieachse.

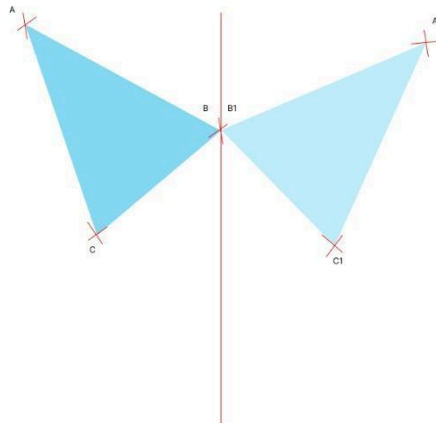
Complete the figure to make it axially symmetrical. The red line is the axis of symmetry.



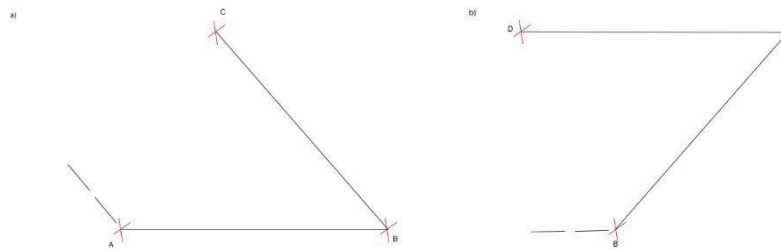
Solution:

Die Punkte  $A'$ ,  $B'$  und  $C'$  sind die Bildpunkte. Die Punkte  $B$  und  $B'$  liegen aufeinander.

The points  $A'$ ,  $B'$  and  $C'$  are the image points. The points  $B$  and  $B'$  lie on top of each other.



5. Übertrage die Figur ins Heft und ergänze zu einem Parallelogramm.  
Transfer the figure into your notebook and complete it to form a parallelogram.



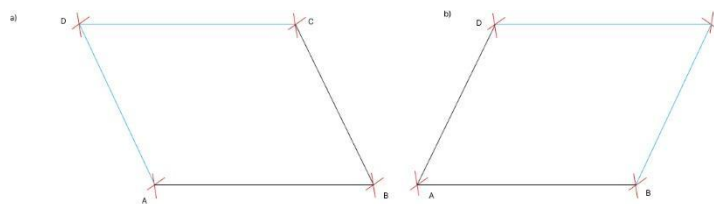
Solution:

zu a) Der Punkt D ist von C fünf Kästchen entfernt.

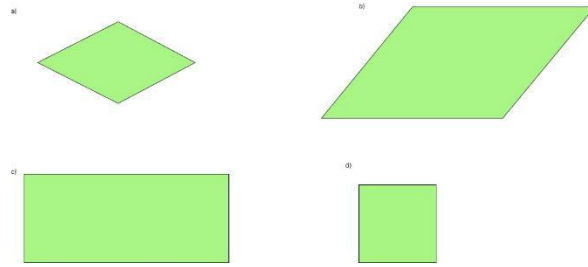
zu b) Der Punkt A ist von B fünf Kästchen entfernt.

a) Point D is five boxes away from C.

b) Point A is five boxes away from B.



6. Welche Vierecke sind Rauten?  
Which quadrilaterals are rhombuses?



Solution:

Alle vier Figuren sind Parallelogramme.

Nur die Figuren a) und b) haben vier gleich lange Seiten.

Die Vierecke a) und d) sind also Rauten.

Die Figuren b) und c) haben unterschiedlich lange Seiten. Sie sind keine Rauten.

All four figures are parallelograms.

Only figures a) and b) have four sides of equal length.

The quadrilaterals a) and d) are therefore rhombuses.

The figures b) and c) have sides of different lengths. They are not rhombuses.

7. Welche dieser Vierecke sind:

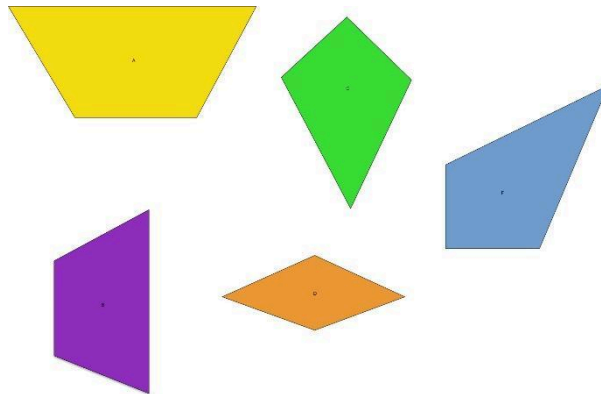
a) Drachen

b) Trapeze

Which of these quadrilaterals are:

a) Kites

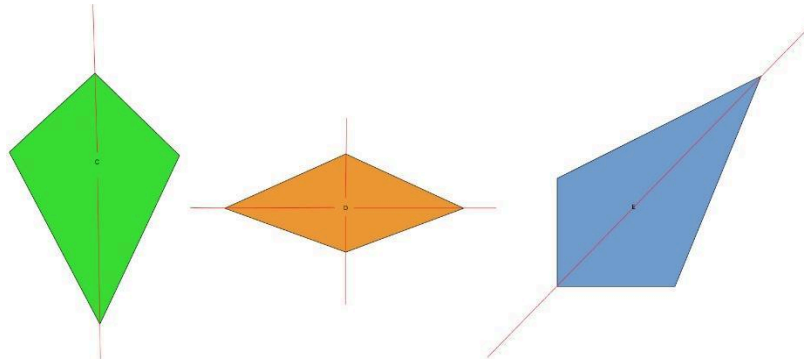
b) Trapezoids



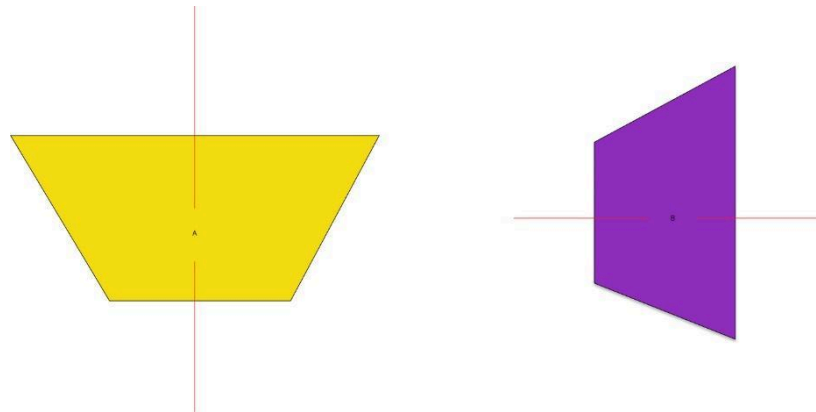
Solution:

A) Die Gruppen C, D und E sind Drauchen.

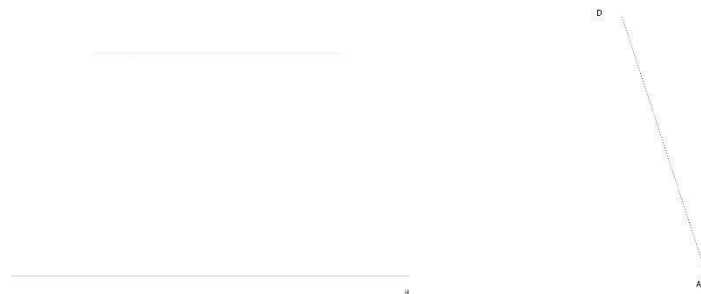
Groups C, D and E are kites.



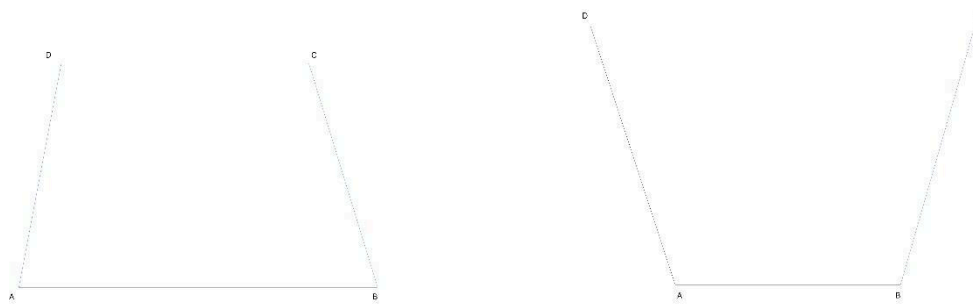
- B) Die Gruppen A und B sind symmetrische Trapeze.  
Groups A and B are symmetric Trapezoids.



8. Übertrage die Figur ins Heft und ergänze zu einem symmetrischen Trapez.  
Bezeichne alle Eckpunkte und miss die Seitenlängen.  
Transfer the figure to your notebook and complete it to form a symmetrical trapezoid. Mark all the corner points and measure the side lengths.



Solution:



a)

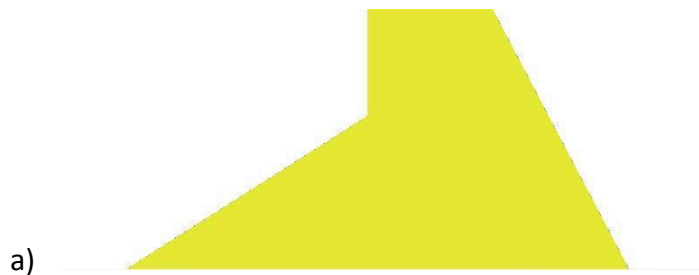
— — — —  
 $AB = 3,0 \text{ cm}; BC = 2,1 \text{ cm}; CD = 2,0 \text{ cm}; AD = 2,1 \text{ cm}$

b)

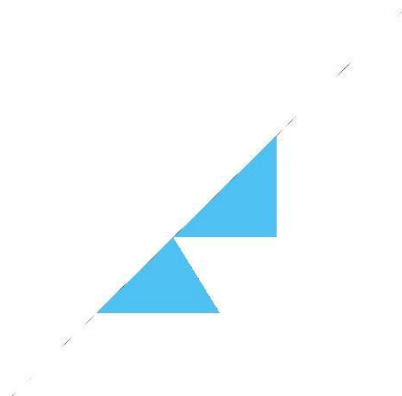
— — — —  
 $AB = 1,5 \text{ cm}; BC = 2,2 \text{ cm}; CD = 3,5 \text{ cm}; AD = 2,2 \text{ cm}$

9. Ergänze zu einer achsensymmetrischen Figur.

A) Complete an axially symmetrical figure.

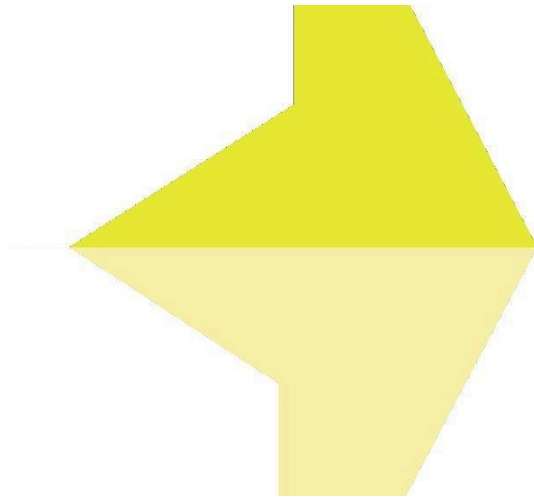


b)

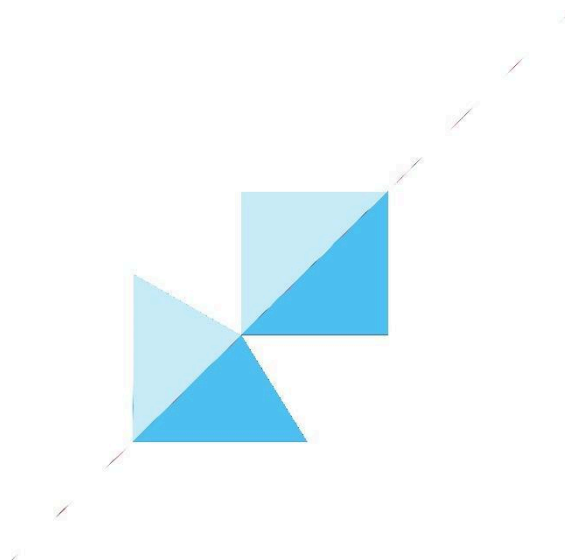


Soultion:

a)



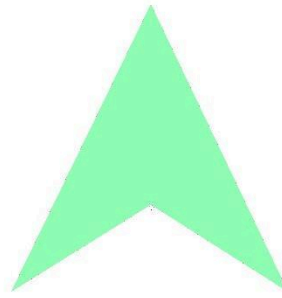
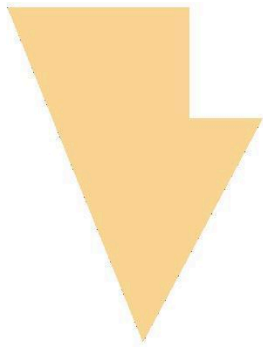
b)



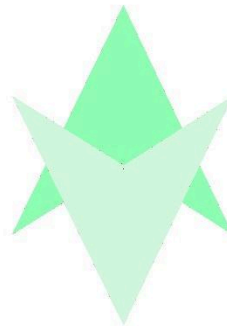
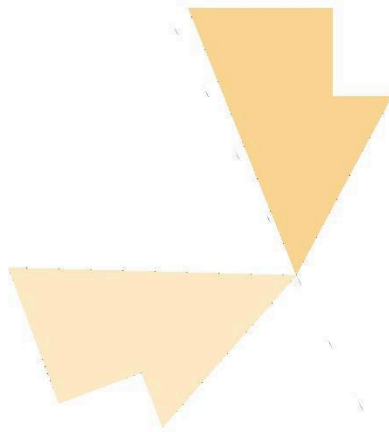
Ergänze in a) zu einer achsensymmetrischen und b) zu einer punktsymmetrischen Figur.

B) Complete a) to an axially symmetric figure and b) to a point-symmetric figure.

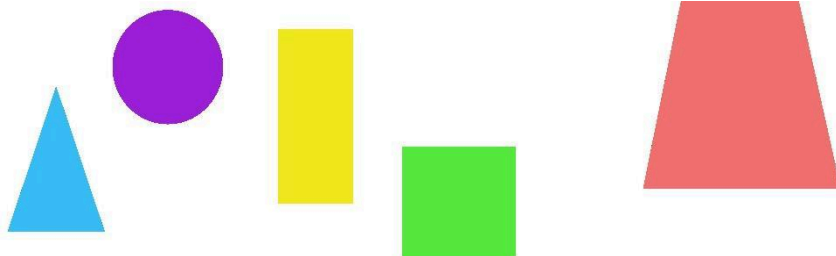




Solution:



10. Gib die Namen der Figuren an.  
Give the names of the characters.



Solution:

