

Grade 4 - Lines of Symmetry - Answer Key

Common Core 4.G.A.3 · maths-pdf.fr/en/

Each answer explains the fold that makes the halves match and gives the number of lines in bold. Many answers show the shape with its dashed lines of symmetry. Use them to check your own drawings.

Grade 4 · Common Core State Standards: **4.G.A.3**

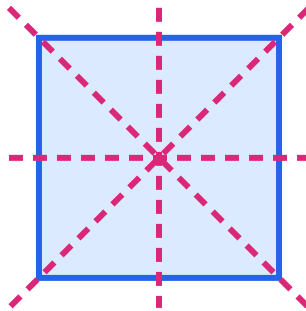
Exercise 1 - Is it symmetric?

Fold along the dashed line. The left wings land exactly on the right wings.

Yes, it is line-symmetric.

Exercise 2 - Square

A square folds in half up and down, across, and along each of the two diagonals.



A square.

4 lines

Exercise 3 - Rectangle

It folds in half across and up and down. The diagonals do not make matching halves.

2 lines

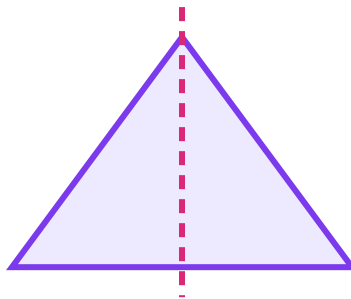
Exercise 4 - Equilateral triangle

Each line runs from a corner to the middle of the opposite side. There are 3 corners.

3 lines

Exercise 5 - Isosceles triangle

Only the line from the top corner down to the middle of the base works.



An isosceles triangle.

1 line

Exercise 6 - Slanted parallelogram

Try folding it up and down, across, or along a diagonal. In every case the halves do not match.

0 lines

Exercise 7 - Vertical lines in letters

A, H, M, and T are cut into matching left and right halves by a vertical line. B has only a horizontal line, and F and S have none.

A, H, M, T

Exercise 8 - Horizontal lines in letters

B, E, and H are cut into matching top and bottom halves. F, L, and S have no line.

B, E, H

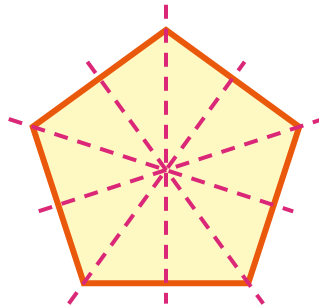
Exercise 9 - Letters with no lines

A has a vertical line, H has two lines, and T has a vertical line. F, L, and S have none.

F, L, S

Exercise 10 - Regular pentagon

One line from each of the 5 corners to the middle of the opposite side.



A regular pentagon.

5 lines

Exercise 11 - Regular hexagon

3 lines join opposite corners and 3 lines join the middles of opposite sides: $3+3=6$.

6 lines

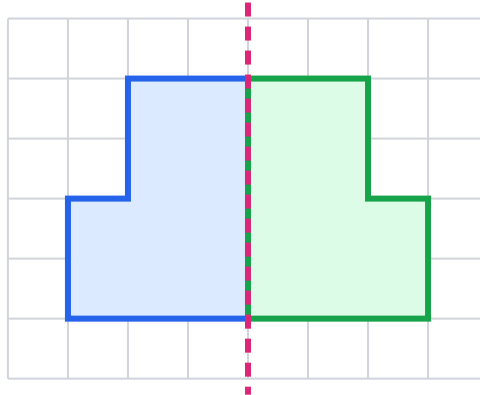
Exercise 12 - Circle

Every line through the center folds the circle into two matching halves. You can draw as many such lines as you like.

Too many to count (infinitely many)

Exercise 13 - Complete the shape

Each corner on the left has a matching corner the same distance from the dashed line on the right. Join them in the same order.



Grid with a dashed line of symmetry.

The right half mirrors the left half

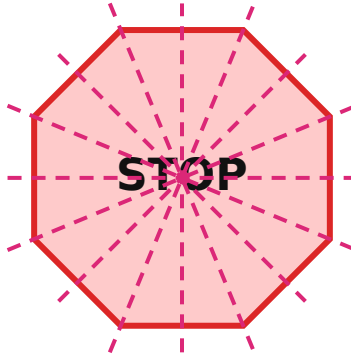
Exercise 14 - Sort the shapes

1. A rhombus folds along each diagonal: 2.
2. A kite folds along one diagonal: 1.
3. A regular octagon has 8 sides: 8.
4. No fold matches the halves: 0.

2, 1, 8, 0

Exercise 15 - Stop sign

A regular polygon has as many lines as sides. An octagon has 8 sides.



A stop sign.

8 lines

Exercise 16 - Butterfly spots

The right wings have 4 spots too: $4+4=8$.

Add the spot on the body: $8+1=9$.

9 spots

Exercise 17 - Road signs

Yield sign: 3. Stop sign: 8. School-crossing sign: 1.

$3+8+1=12$.

12 lines

Exercise 18 - Words with symmetry

TOT: T, O, and T each have a vertical line, and the letters read the same from the right, so it matches.

HAT: reflected it would read TAH, which is different.

TOT yes; HAT no

Exercise 19 - Flag stripes

Flag A: the top stripe matches the bottom stripe, so a horizontal line through the middle works. A vertical line also works because each stripe is one color. That is 2 lines.

Flag B: top and bottom are different colors, so only the vertical line works. That is 1 line.

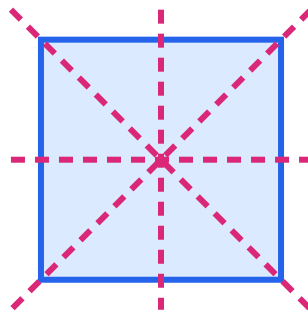
Flag A has 2 lines; Flag B has 1 line (only A has a horizontal line)

Exercise 20 - Folding a square

A square has 4 lines of symmetry: 2 diagonals and 2 lines through the middles of opposite sides.

Diagonal folds make 2 triangles each: 2 ways. Middle folds make 2 rectangles each: 2 ways.

Check: $2+2=4$.



A square.

4 ways; 2 make triangles and 2 make rectangles