

ACCESS **MATHEMATICS TESTS**

9.1

Lines of symmetry in 2-D shapes



Contents

Topic 1: One line of symmetry

Topic 2: More than one line of symmetry

[Suggested timing: 15–20 minutes]

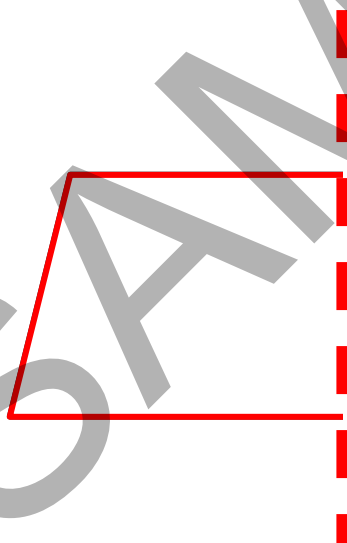


One line of symmetry

A **line of symmetry** is a line that divides a shape into two equal parts, where one is a reflection of the other.

This is a line of symmetry.

If the shape is folded along this line, one part of the shape fits exactly on top of the other.





One line of symmetry

You can use a mirror to check for a line of symmetry.

Place the mirror where you think the line of symmetry is.

Does your shape look the same in the mirror?

If yes, then the mirror lies on the line of symmetry.

For example, here is the line of symmetry for this shape:

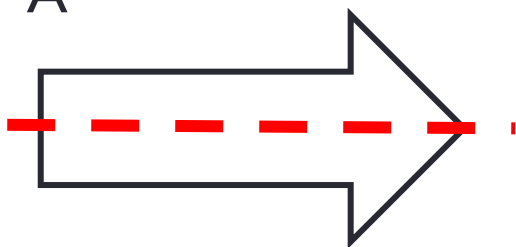




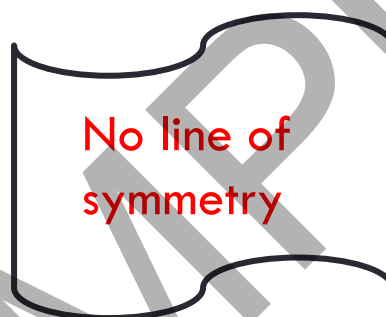
One line of symmetry

Which of these shapes have a line of symmetry?
For those that do, where is the line of symmetry?

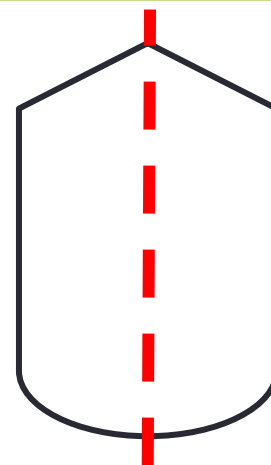
A



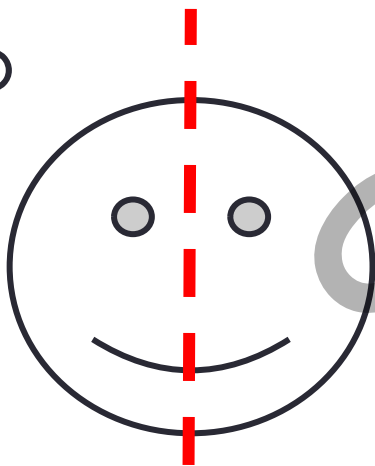
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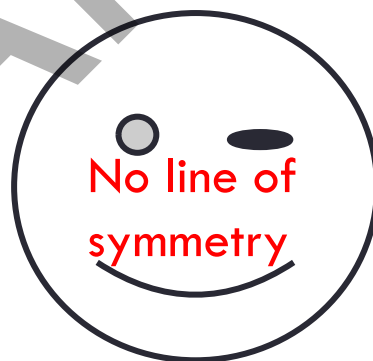
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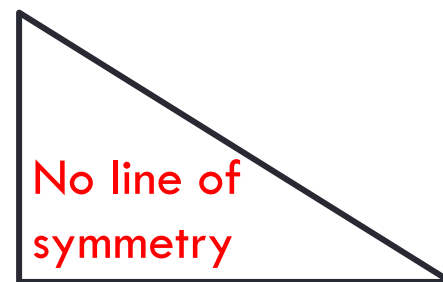
D



E



F

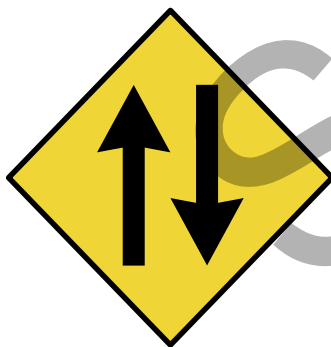
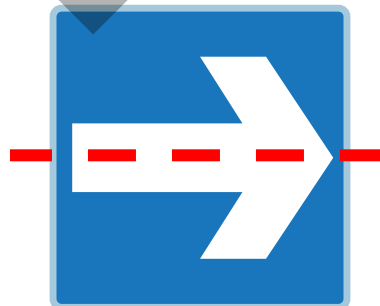




One line of symmetry

Further activity

Which of these road signs have a line of symmetry?

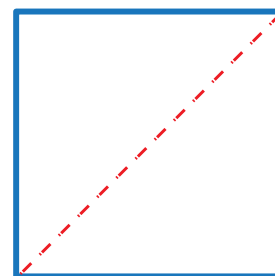
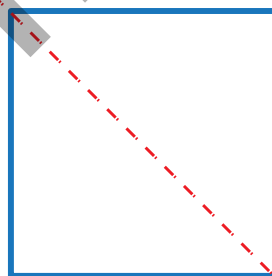
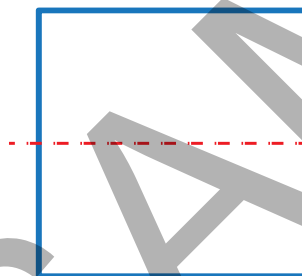
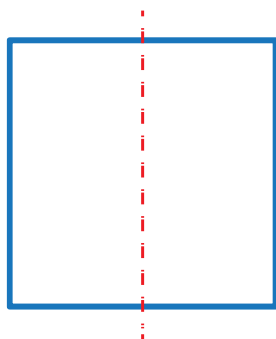




More than one line of symmetry

Some shapes have more than one line of symmetry.

A square has 4 lines of symmetry.





More than one line of symmetry

How many lines of symmetry does a parallelogram have?

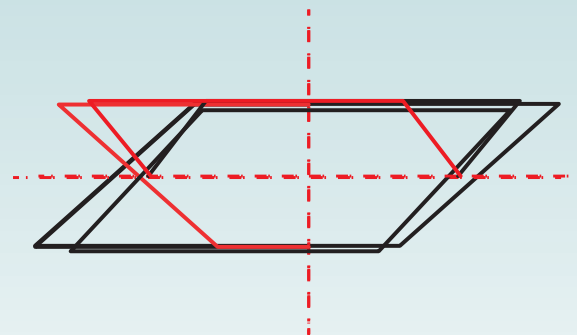


Opinion 1

Opinion 2

Abi is correct.

There is no way to fold a parallelogram so that the parts of the shape fit exactly on top of each other.



Opinion 1



Opinion 2

Answer

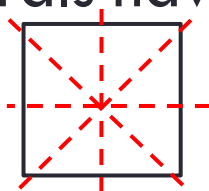


More than one line of symmetry

Further activity

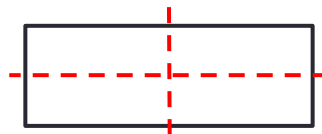
1. How many lines of symmetry do each of these quadrilaterals have?

a. square



4

b. rectangle



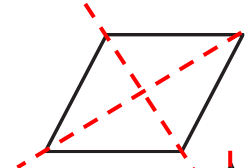
2

c. parallelogram



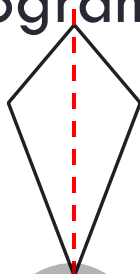
0

d. rhombus



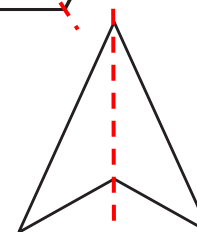
2

f. kite



1

g. arrowhead

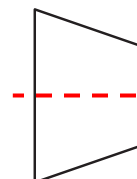


1

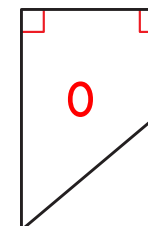
2. Here are three different trapeziums, how many lines of symmetry does each one have?



0



1



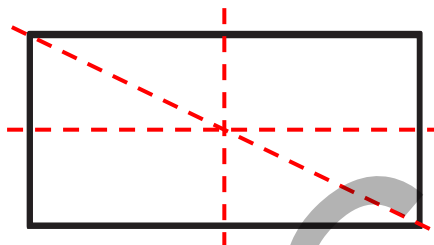
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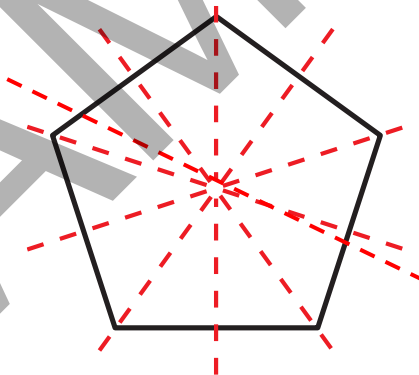
More than one line of symmetry

The lines of symmetry on these shapes are all wrong.
Explain why.

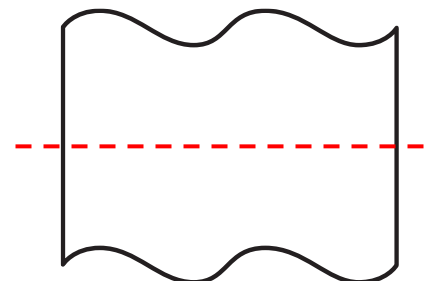
A



B



C

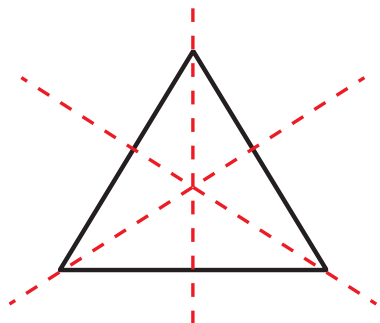




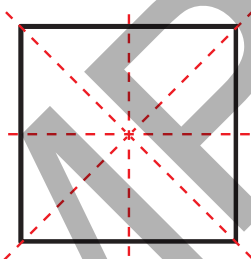
More than one line of symmetry

Further activity

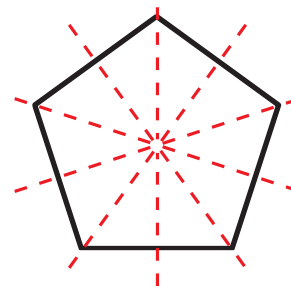
Here are some regular shapes. Draw on all the lines of symmetry. What do you notice?



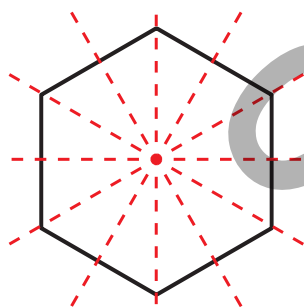
Equilateral triangle



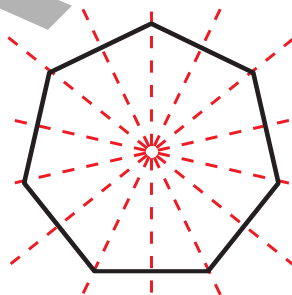
Square



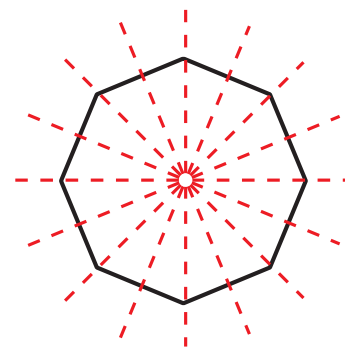
Regular pentagon



Regular hexagon



Regular heptagon



Regular octagon