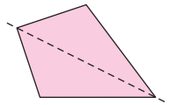
S3.4 Reflection symmetry

This spread will show you how to:

- Recognise reflection symmetry of 2-D shapes

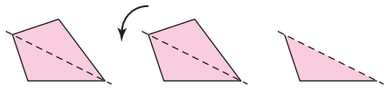
Keywords
Line of symmetry
Reflection symmetry
Regular polygon

A shape has **reflection symmetry** if

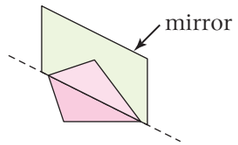


The dotted line is the **line of symmetry**.

- the shape divides into two identical halves
- you can fold the shape so that one half fits exactly on top of the other



- a mirror reflects half the shape to give the completed shape.

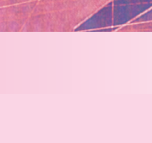


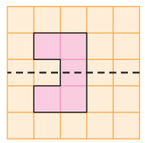
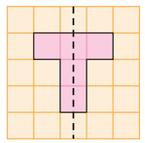
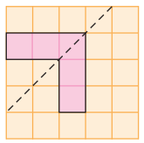
- **A line of symmetry divides the shape into two identical halves.**

You can find symmetry in nature.
This butterfly has one line of symmetry.

Example

a Add one extra square so that the shaded shape has 1 line of symmetry.
b Draw the line of symmetry.

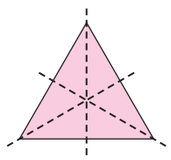


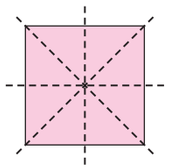
 or  or 

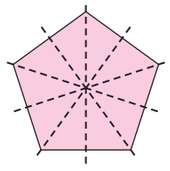
A shape can have more than one line of symmetry.

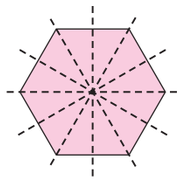
- **A regular polygon with *n* sides has *n* lines of symmetry.**

Regular polygons have equal sides and equal angles.


Equilateral triangle
3

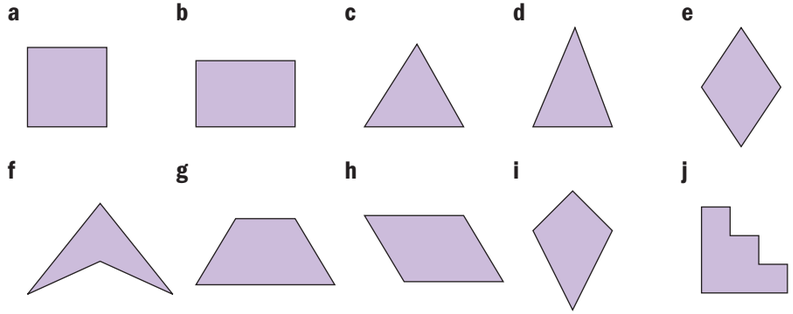

Square
4


Regular pentagon
5

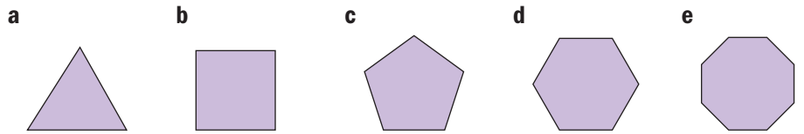

Regular hexagon
6

Exercise S3.4

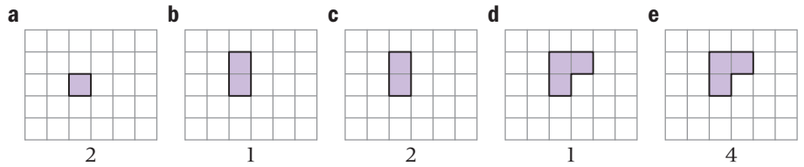
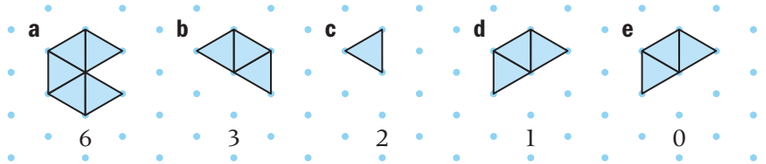
1 Copy these 2-D shapes and draw in the lines of symmetry.



2 State the number of lines of symmetry for each of these regular polygons.



3 Draw these shapes on square grid paper. Add one square to give a shape with the required number of lines of symmetry. Draw the lines of symmetry for the new shape.



4 Draw these shapes on isometric paper. Add one triangle to give a shape with the required number of lines of symmetry.
Draw the lines of symmetry for the new shape.