

Reasoning about shapes and angles

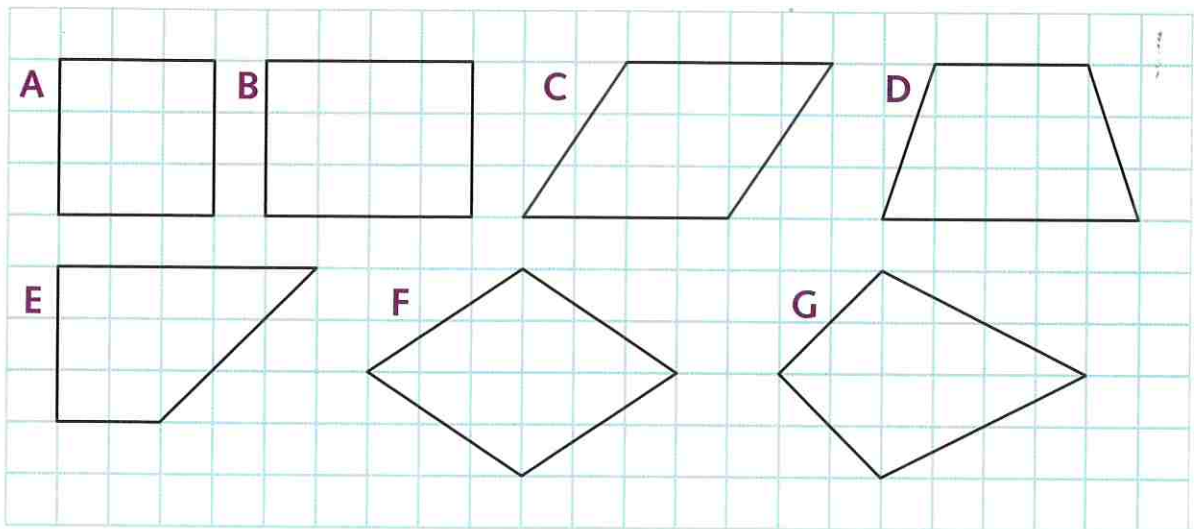


Use properties to classify 2-D shapes and find the missing angles in 2-D shapes

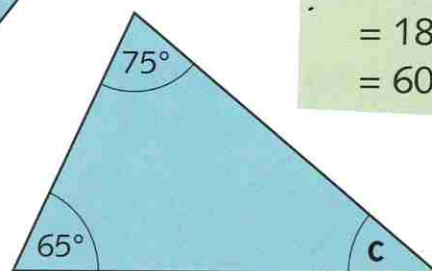
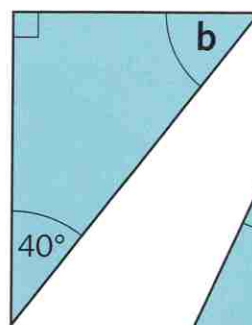
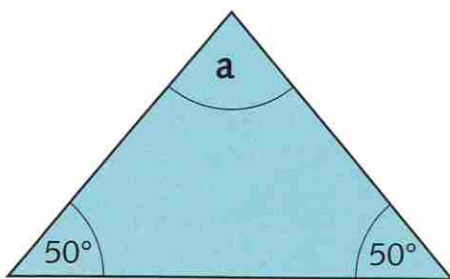
Challenge

1 Write the letters of the shapes with these properties:

- a Two pairs of parallel sides
- b Opposite angles equal
- c At least one right angle
- d One line of symmetry



2 Calculate the size of each missing angle.



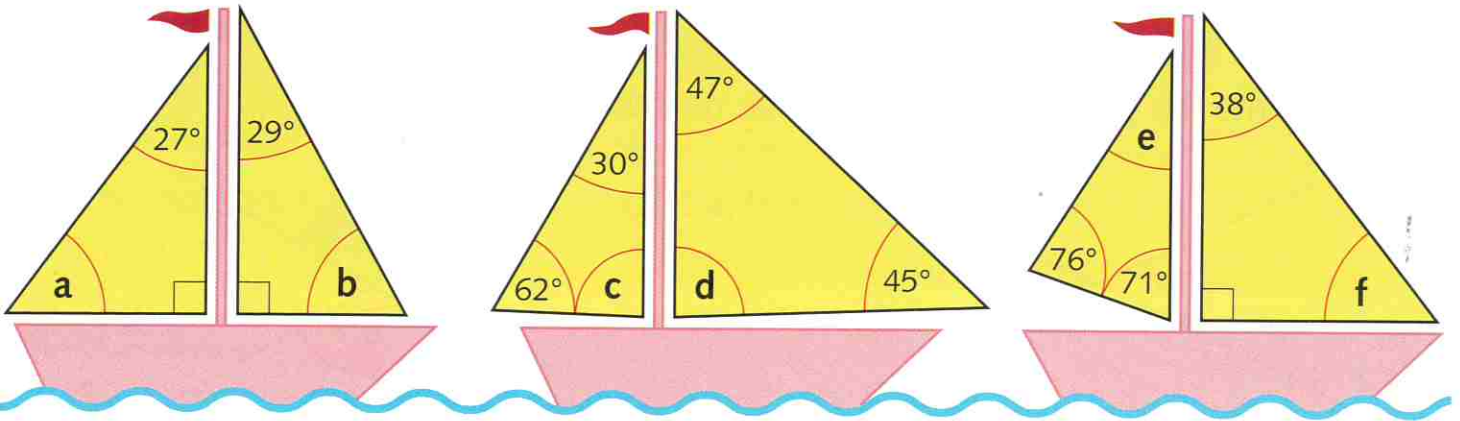
Example

$$\begin{aligned}
 x &= 180^\circ - (50^\circ + 70^\circ) \\
 &= 180^\circ - 120^\circ \\
 &= 60^\circ
 \end{aligned}$$

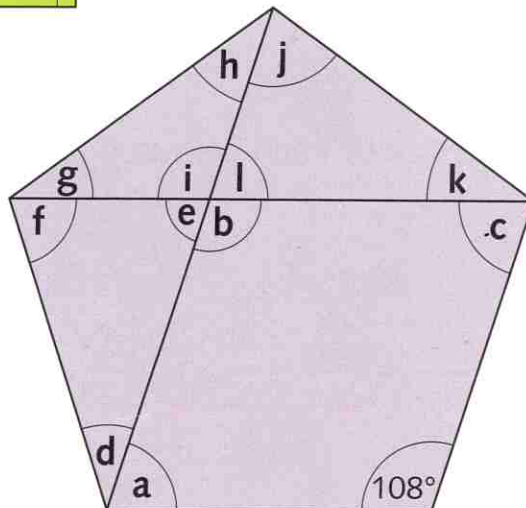
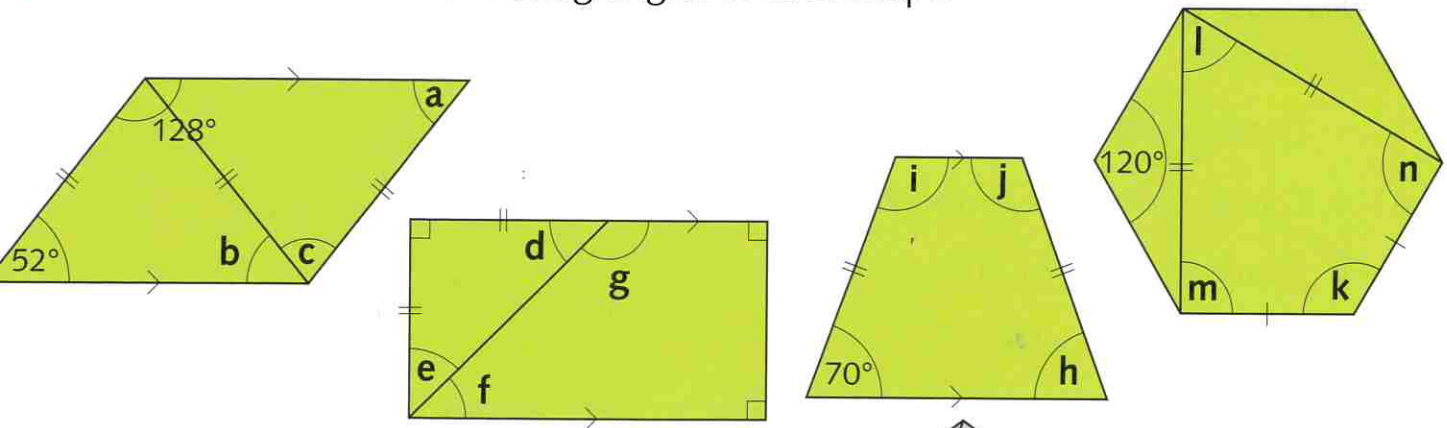
1 Look at the shapes A to G in Challenge 1. Write the letters of the shapes with these properties:

- a Diagonals bisect all the angles
- b One pair of parallel sides
- c No axis of symmetry
- d No pairs of perpendicular sides

2 Calculate the size of the angles marked with letters on each triangular sail.



3 Calculate the size of the missing angles in each shape.



The angles in a regular pentagon measure 108° . Angle **a** measures 72° . Calculate the size of the marked angles **b** to **l**.

