



Instructions: Work out the shape maths and use the answer bank to check. Read the Did you know? box. Number the 4 steps in order, tick True or False, match each word to its meaning, then write short answers.

1. Shape maths

Answer bank: **15 cm** **2** **3** **6**

Question	Answer
x-coordinate of (2, 3) after moving 4 right	
Lines of symmetry in a rectangle	
A 5 cm line with scale factor 3	
Order of rotational symmetry of an equilateral triangle	

About this topic

Two perpendicular number lines make a grid: the x-axis (across) and the y-axis (up). They cross at the origin (0, 0). Every point has coordinates (x, y): go across first, then up. A handy rhyme: 'along the corridor, then up the stairs'. Negative numbers go left or down, so the axes split the plane into four quadrants.

Did you know?

- René Descartes gave his name to the Cartesian plane.
- Many letters have symmetry: A has a vertical mirror line.
- Kaleidoscopes use mirrors to make patterns with reflections.



2. Put the steps in order

Write 1 to 4 in the boxes (1 = first).

- ☐ Go across: Move along the x-axis by the first number
- ☐ Join: Join the points in order to make the shape
- ☐ Start at origin: Begin at (0, 0)
- ☐ Mark the point: Draw a small cross and label it

3. True or false?

The x-coordinate comes first.	☐ True	☐ False
A reflection changes a shape's size.	☐ True	☐ False
A square has rotational symmetry.	☐ True	☐ False
An enlargement changes the angles.	☐ True	☐ False

4. Match up

Write the letter of the right meaning in the box.

Origin	A. A slide of a shape without turning or flipping.
Coordinates	B. The point (0, 0) where the axes cross.
Translation	C. A flip of a shape in a mirror line.
Reflection	D. A pair of numbers (x, y) giving a point's position.

5. Short answers

- What are the coordinates of the origin?

- Name the transformation that turns a shape.

- How many lines of symmetry does a circle have?

- Explain in your own words: How do you plot the point (4, -2)?

- Stretch: What is the difference between a translation and a reflection?

