# HOME LEARNING

Year 9

Reflection and Transformation

| Essential learning: | • Completing symmetrical patterns |
|---|---|
| Practising: | • Reflect shapes on a coordinate grid (one quadrant)<br>• Reflect shapes on a coordinate grid (four quadrants) |
| Learning about: | • Draw lines such as $y = 3$ or $x = -4$ on a coordinate grid.<br>• Reflect shapes across horizontal or vertical lines such as $y = 3$ or $x = -4$ |
| Extension: | • Reflect shapes across diagonal line: $y = x$ |

Contents:

## BLOCK SYMMETRY SHEET 1

Complete the missing half of each of the shapes using the mirror lines.
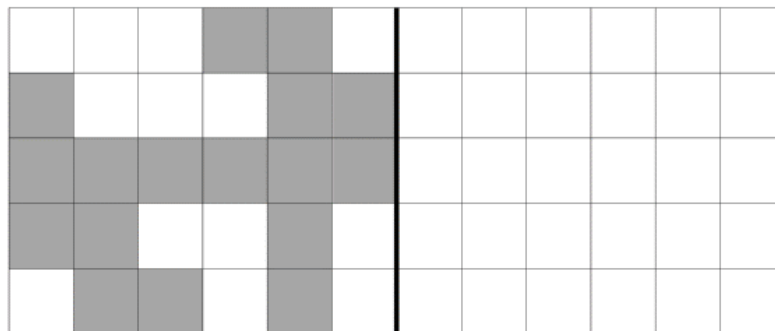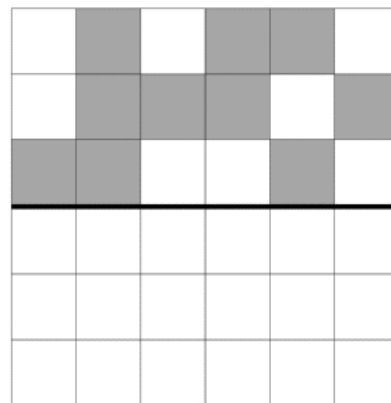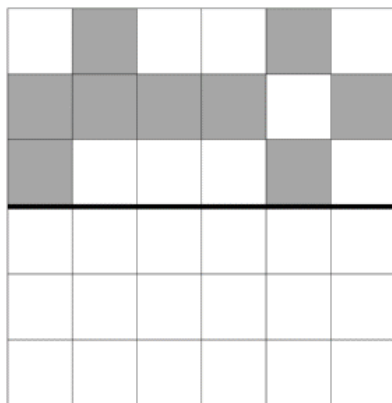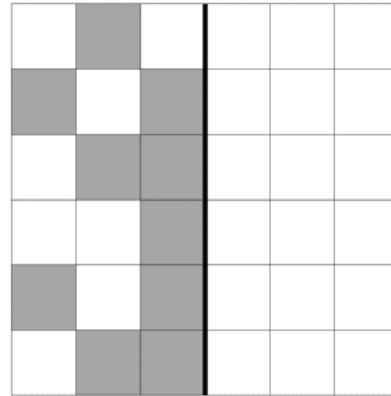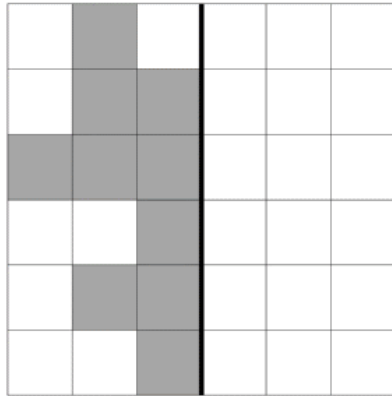
Cut out each grid, and arrange them in different ways to make a larger
picture with one mirror line going through it.
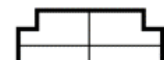
# Form a reflection of this shape and write down the new coordinates
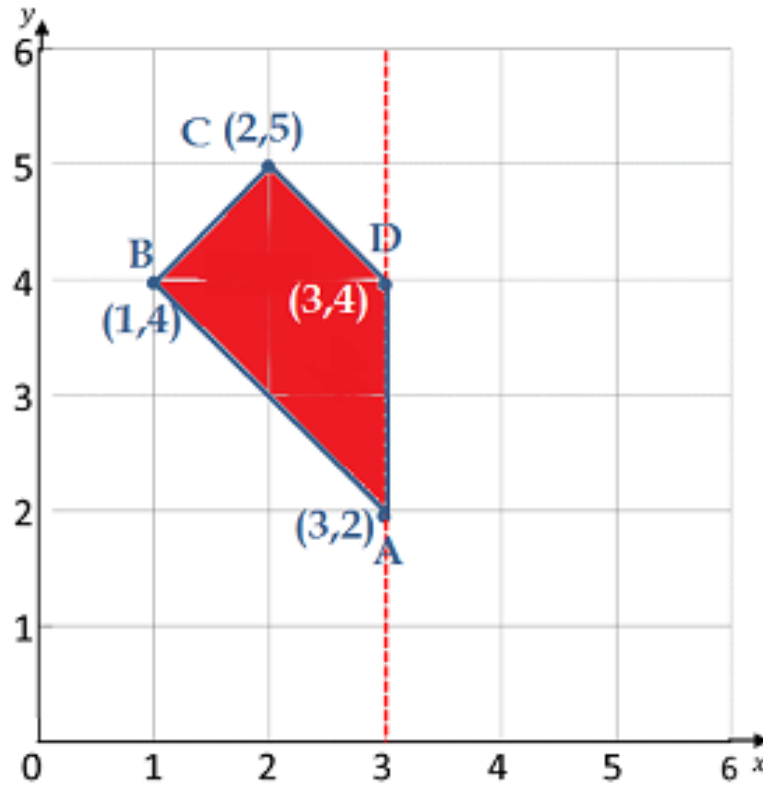


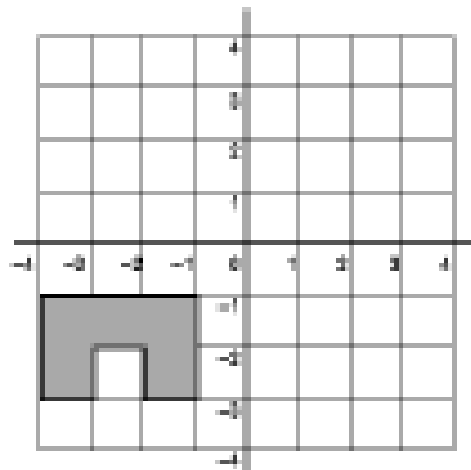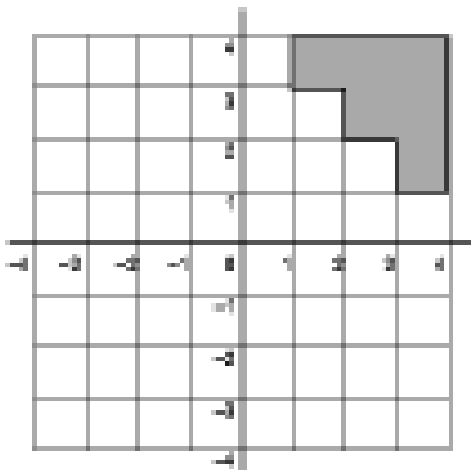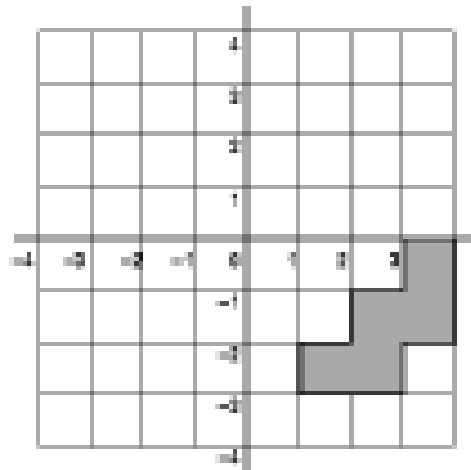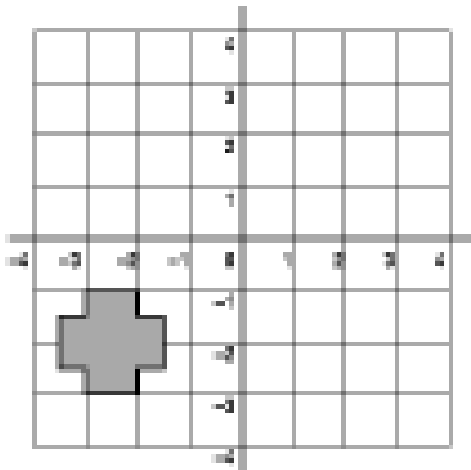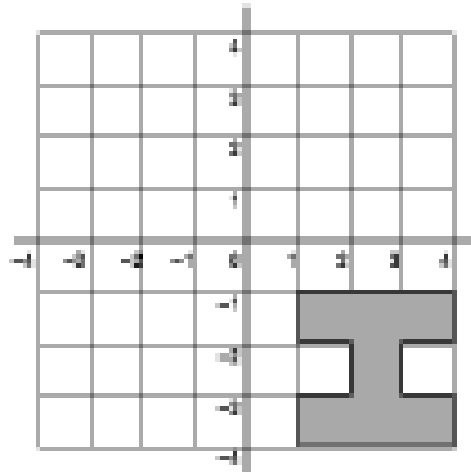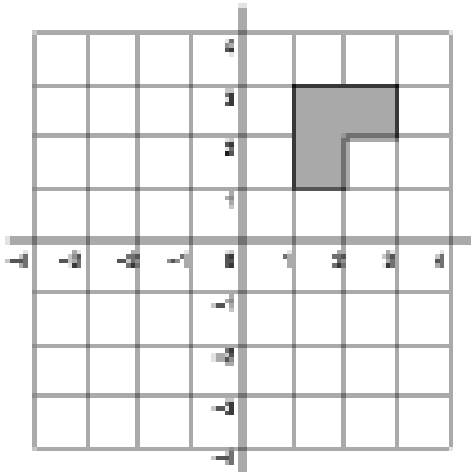Use the following to write the new coordinates

1 2 3 4 5 6 7 8 9 0 , ( )

# Worksheet 3     Reflect shapes on a coordinate grid (four quadrants)

Reflect the shape in the X and Y axis.
Remember the X axis goes across and the Y axis goes up.
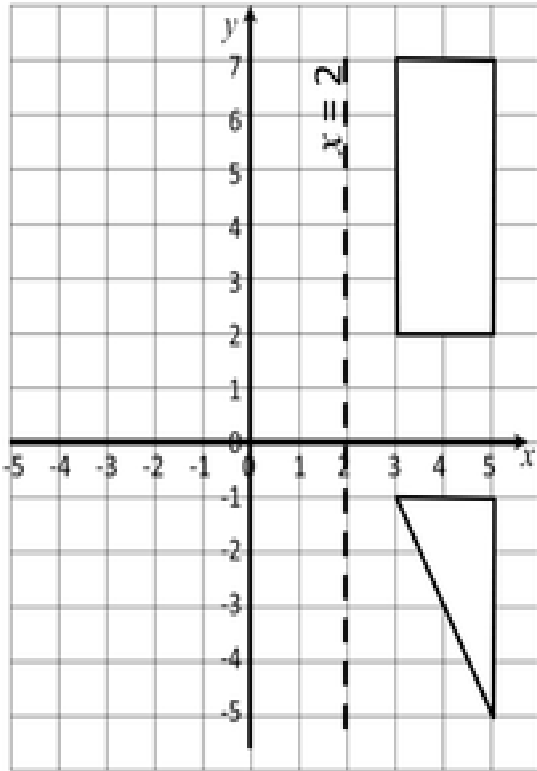
1. Reflect the following shapes in both mirror lines.

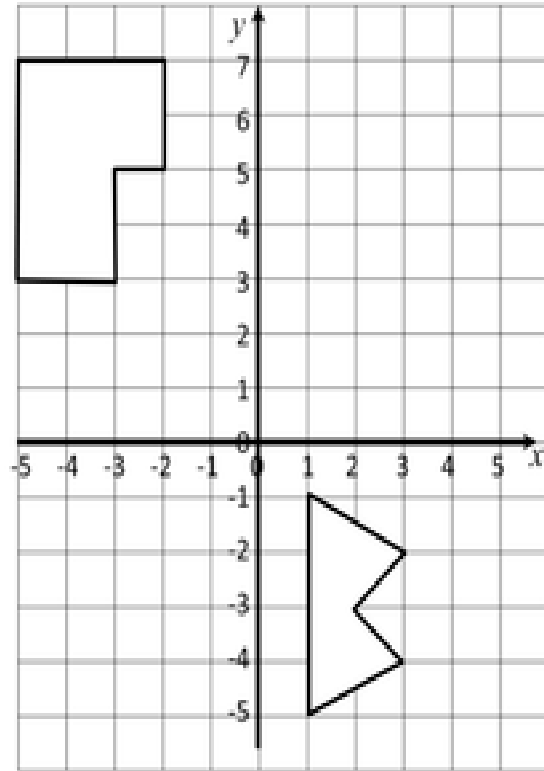# Worksheet 4    Reflect shapes across horizontal or vertical lines such as y=3 or x=-4

Place your mirror on the dotty line X=2, then draw the reflection.
On the second grid draw a vertical line through -1 and then reflect the image.
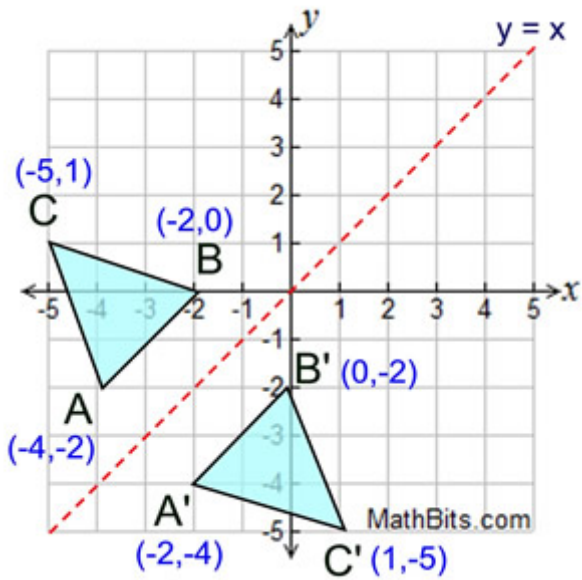
## Reflection in named lines 1
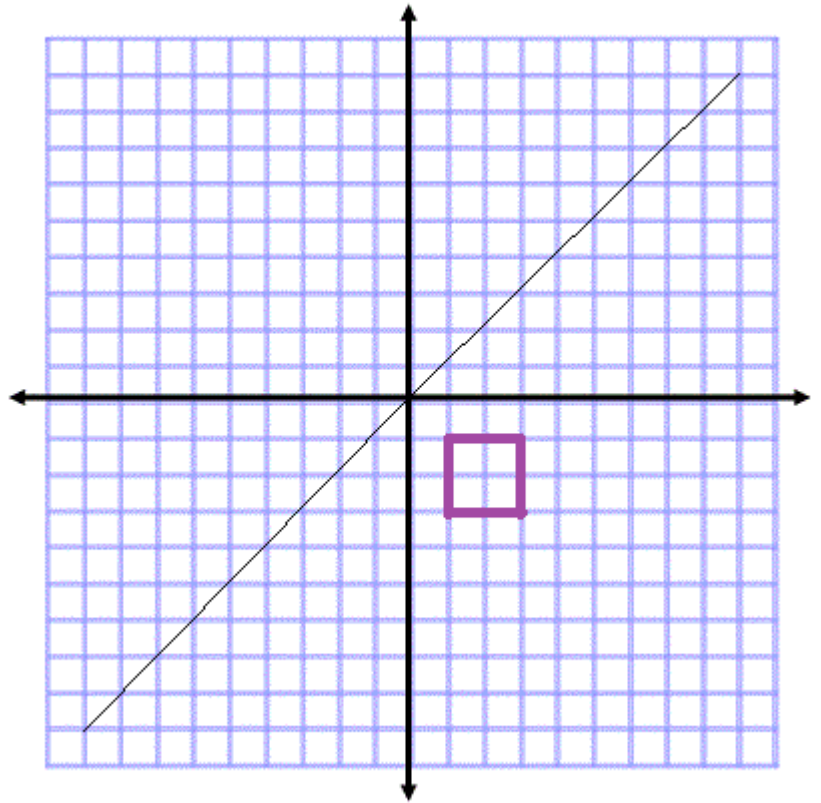


Reflect the shapes in the line $x = 2$



Draw the mirror line $x = -1$
Reflect the shapes in the line $x = -1$

**Worksheet 5** Reflect shapes across diagonal line: $y = x$

Shape ABC has been reflected in the line y=x. The reflection is show as A′B′C′

**Task 1:** Reflect the shape in the given line y=x



**Task 2:** Draw the diagonal line y=x on the grid, then reflect the shape. Extension. Draw another shape onto the grid and reflect it.