Wednesday

HALF WAY TO THE
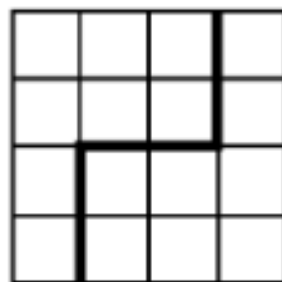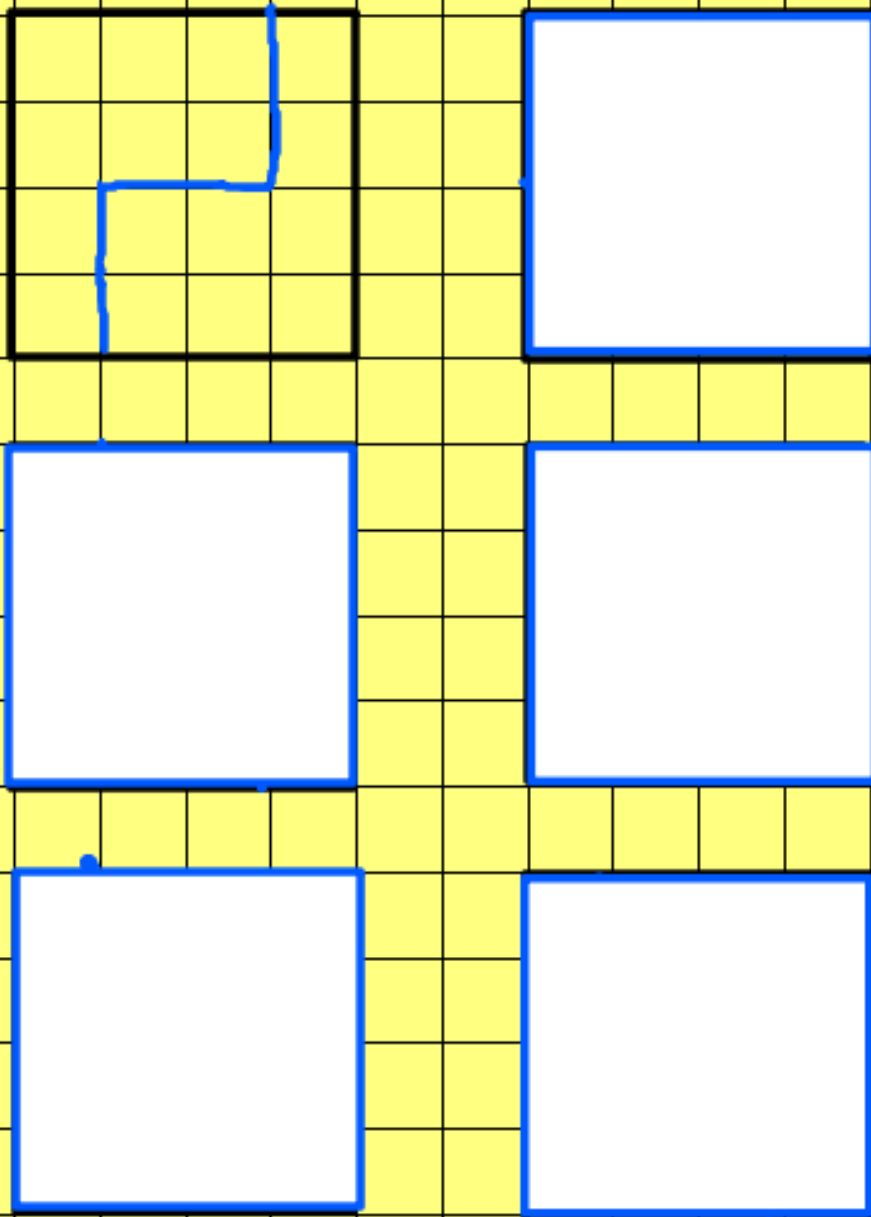
Weekend

Four by four

You need some squared paper.

This 4 by 4 grid is divided into two identical parts.
Each part has the same area and the same shape.

Find five more ways of dividing the grid into two
identical parts by drawing along the lines of the grid.
Rotations and reflections do not count as different!

Explore ways of dividing a 4 by 4 grid into two parts
with equal areas but different shapes.

L.O. Identify factors.

The factors of 10 are ████████

List all the factors of the following numbers

A. 16

B. 17

C. 42

D. 21

E. 80

Are there any numbers that are common in all the lists?

L.O. Reflect shapes on a co-ordinate grid.

What does reflect mean?

What equipment is essential?

A reflection is a way of changing a shape like a mirror does. The shape is reflected in the line of symmetry (or mirror line).
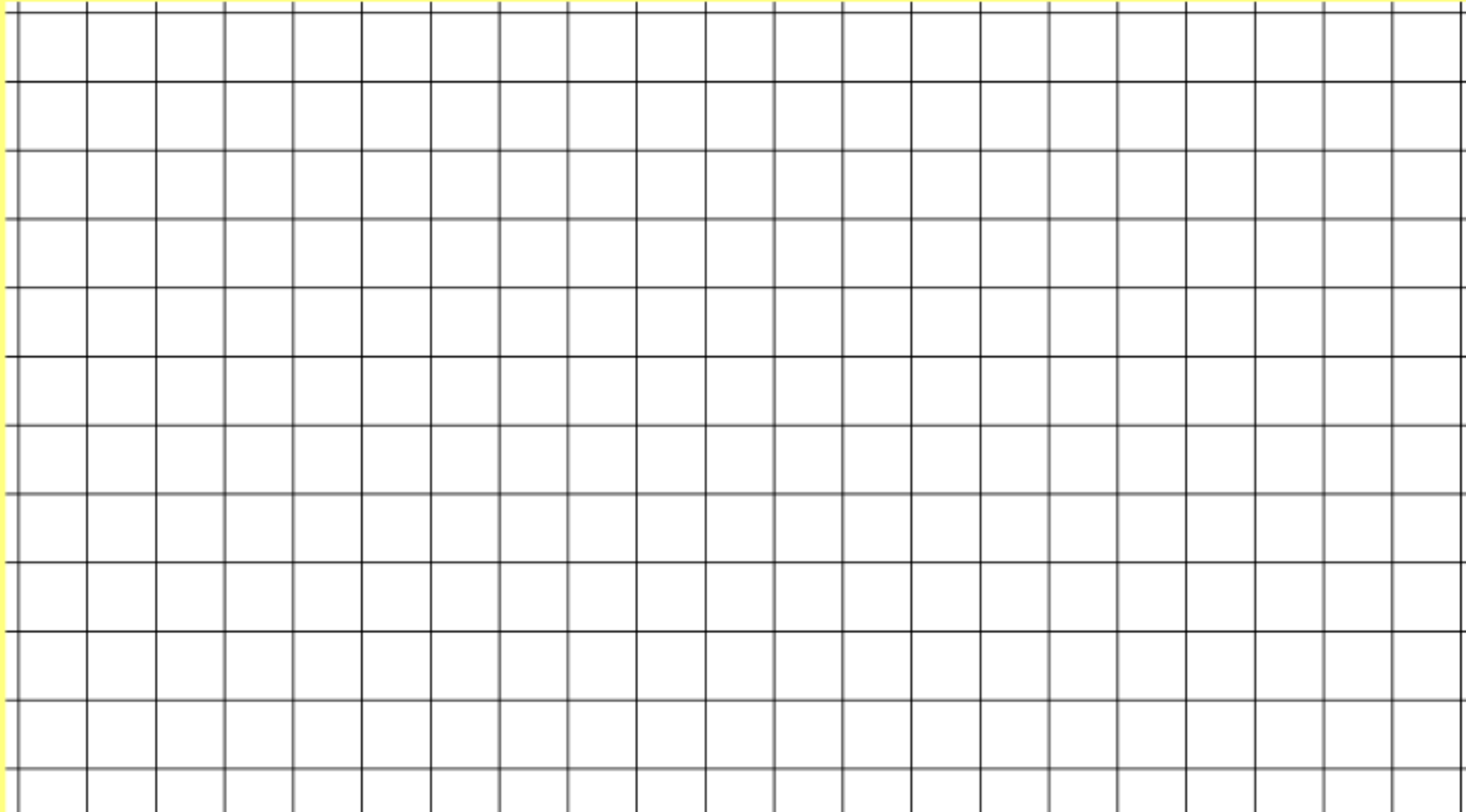
L.O. Reflect shapes on a co-ordinate grid.

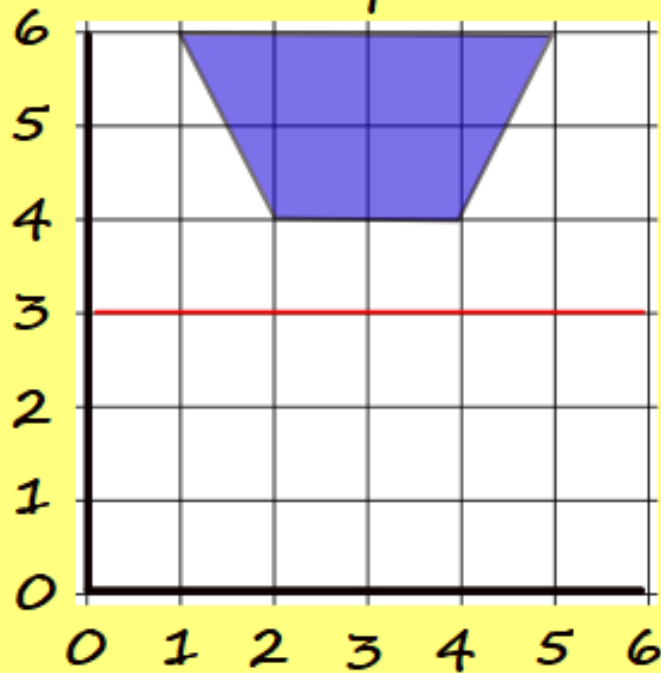On square paper, draw a parallelogram.

Choose one side of the parallelogram to be the mirror line.

Draw the reflection of the parallelogram in this mirror line.

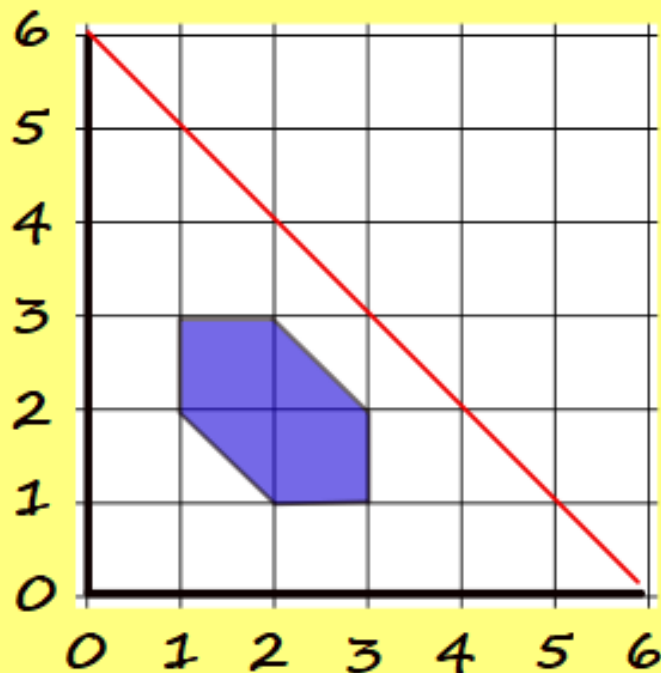Which lines in your diagram are parallel?

L.O. Reflect shapes on a co-ordinate grid.

The blue trapezium is reflected in a mirror line (0, 3) to (6, 3).
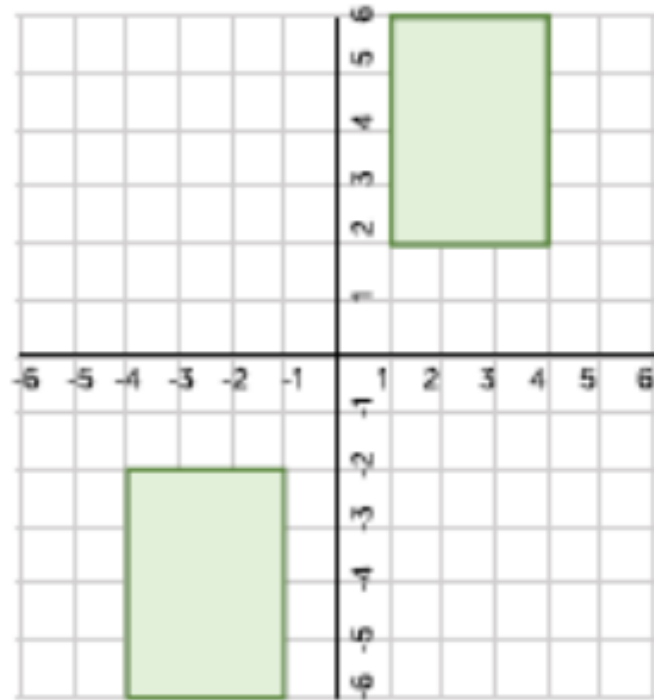
Give the co-ordinates of the reflection.

Reflect the blue hexagon in the mirror line.

Give the co-ordinates of the reflection.

A rectangle has been reflected in the x axis and the y axis.
Where could the starting rectangle have been? Is there more than one option?

Tess has reflected the orange shape in the y axis.
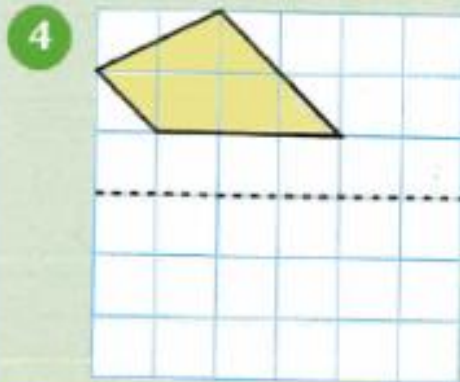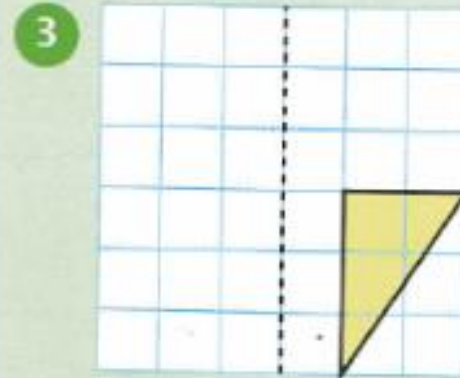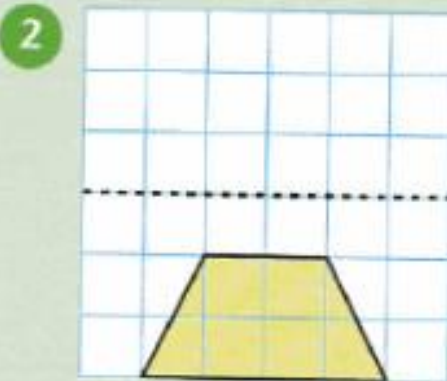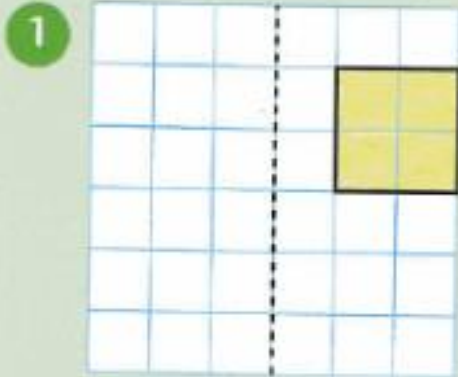Is her drawing correct?
If not explain why.

L.O. Reflect shapes on a co-ordinate grid.

A

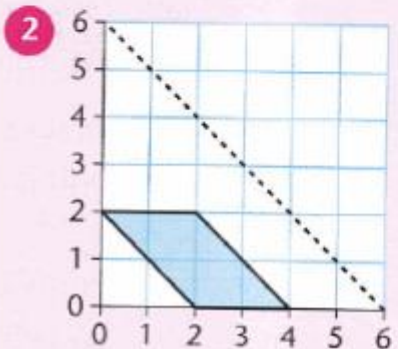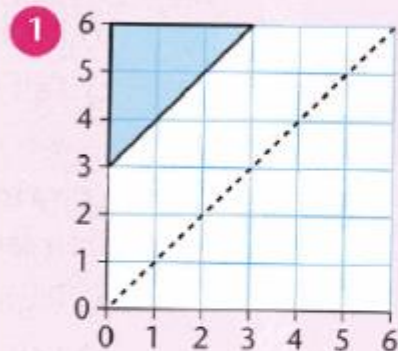Copy the grid, the shape and the mirror line.
Sketch the reflection.

1

2

3

4

L.O. Reflect shapes on a co-ordinate grid.

B

Copy the grid, the shape and the mirror line.
Sketch the reflection.

1

2

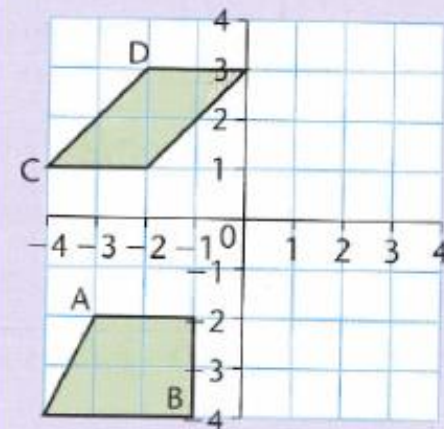
Plot these co-ordinates on a 6×6 grid and join them up in the order given to form a shape. Draw the mirror line and sketch the reflection.

3 (0, 0) (2, 2) (5, 2) (4, 0)
(0, 0)
Mirror line (0, 3) to (6, 3)

4 (4, 3) (4, 6) (6, 6) (6, 5)
(4, 3)
Mirror line (3, 0) to (3, 6)

C

1 Copy the above grid and the trapezium.
Sketch the reflection:
a) in the x axis
b) in the y axis
c) in a mirror line
(−4, 4) to (4, −4)

2 Copy the above grid and the parallelogram.
Sketch the reflection:
a) in the x axis
b) in the y axis
c) in a mirror line
(−4, −4) to (4, 4)

3 For each of the points A–D in the above shapes give the co-ordinates of its position:
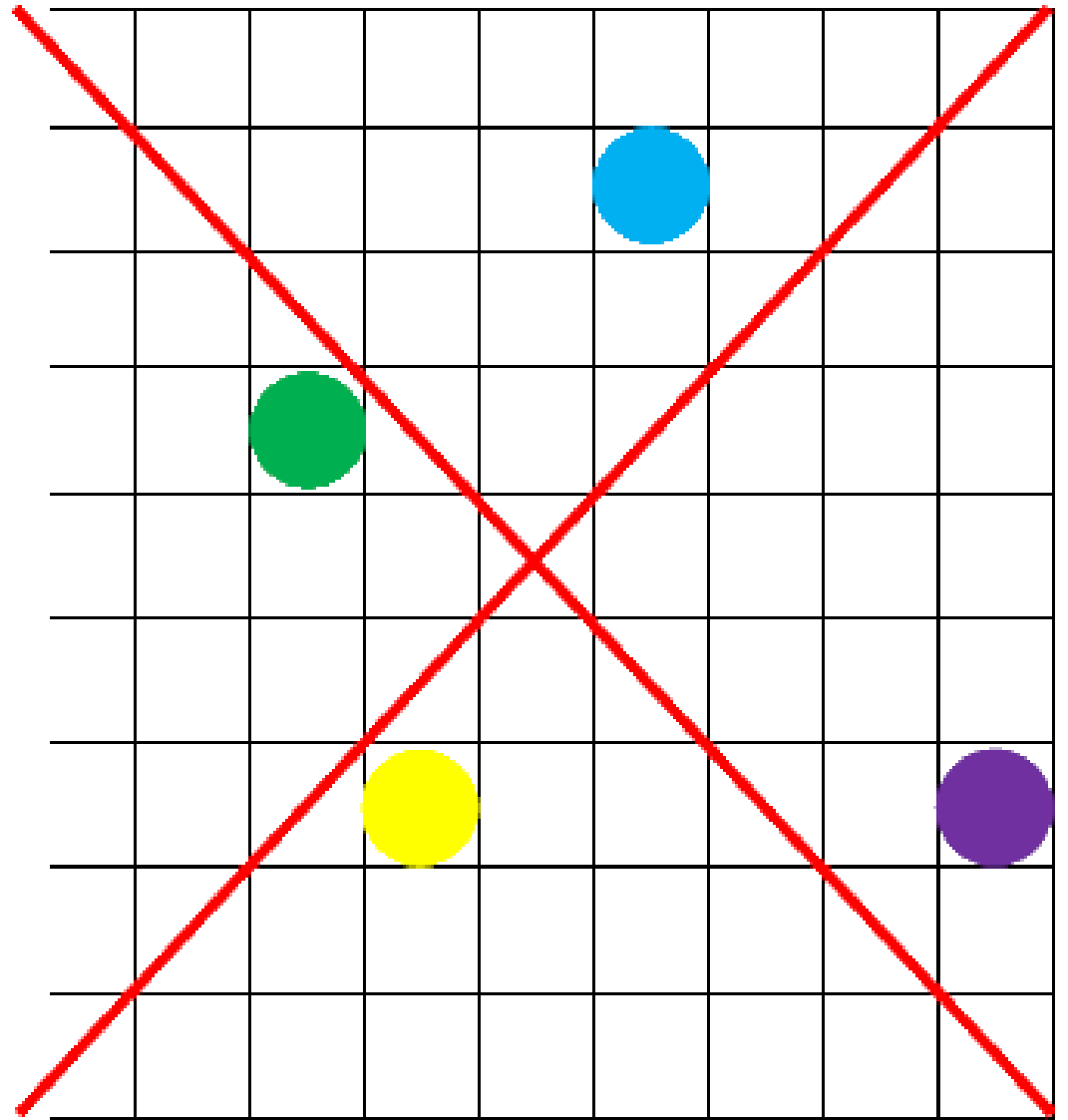a) in the original shape
b) in each reflection.

Symmetry Activity

Need: Some squared paper and four coloured pens
- Draw this pattern.
- Make each circle a different colour.
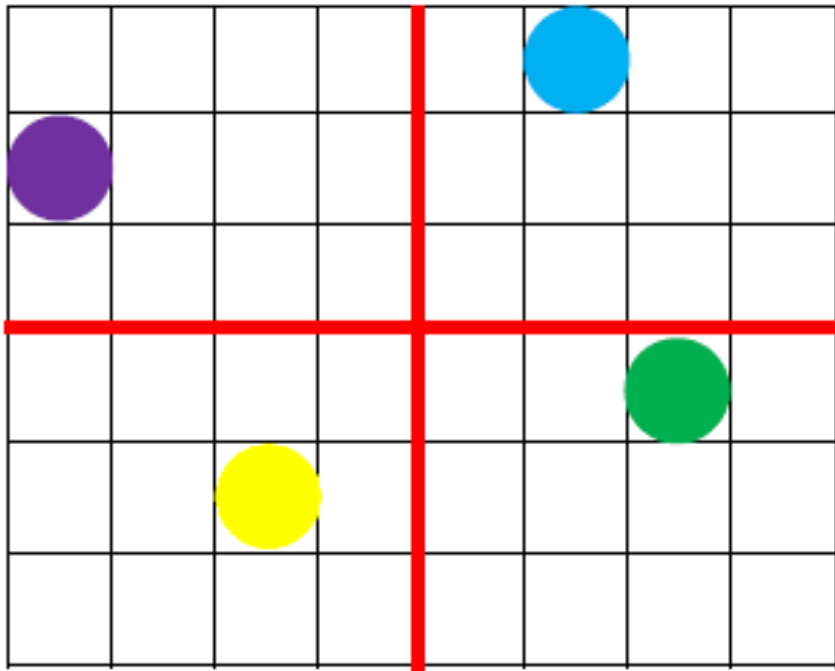
- The pattern has two lines of symmetry.
- Finish the pattern and then do the one below.

(5, 2)   (6, 6)   (2, 5)   (7,

Page 133

C

3 A **a)** (−3, −2)   B **a)** (−1, −4)
     b) (−3, 2)   **b)** (−1, 4)
         (3, −2)   (1, −4)
         (2, 3)   (4, 1)
   C **a)** (−4, 1)   D **a)** (−2, 3)
     b) (−4, −1)   **b)** (−2, −3)
         (4, 1)   (2, 3)
         (1, −4)   (3, −2)

Page 136

A

5 A **a)** (3, 6)
   B **a)** (5, 4)   **b)** (3, 0)