

Geometry



My Name

Mathseeds Geometry Series C Student Book

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In this book



The **Mathseeds** program teaches children the core maths and problem solving skills needed to be successful at school.

Each online lesson begins by introducing and modelling a mathematical concept. The child then completes a wide range of activities where they practise the new skill. These activities present the content in many different ways so that children learn to use and apply each new skill in a variety of situations.

This book is designed to supplement the online program with more exercises in the core mathematical concepts. Each unit focuses on a topic within the main learning strand, presenting a series of pen and paper activities, word problems, puzzles and games to practice their skills and understanding.

The topics in this book align with the following components of the Australian Curriculum:

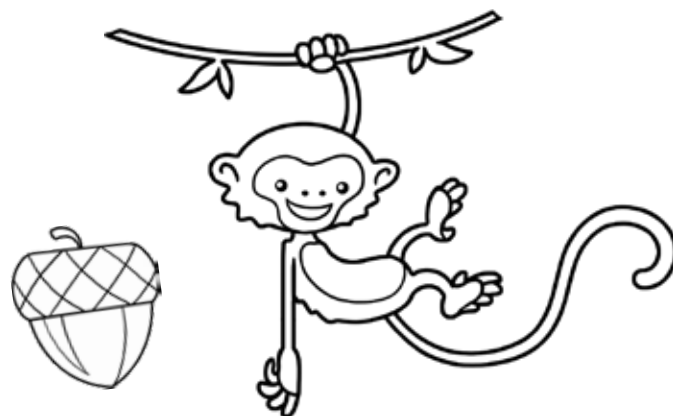
Australian Curriculum content codes and descriptions

ACMMG042 Describe and draw two-dimensional shapes, with and without digital technologies

ACMMG043 Describe the features of three-dimensional objects

ACMMG045 Investigate the effect of one-step slides and flips with and without digital technologies

ACMMG046 Identify and describe half and quarter turns

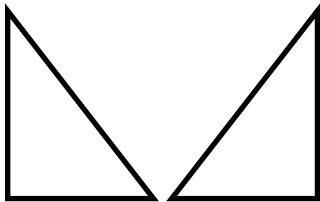


Flip

1 Flip each shape and draw it.

A 10x5 dot grid containing four shapes for flipping. From left to right: an L-shaped polygon, a crescent moon shape, a triangle pointing right, and a house-shaped pentagon.

2 This shape has been flipped. Flip and draw it again. Continue across the page.



3 Draw your own shape. Flip and draw it again. Complete the pattern.

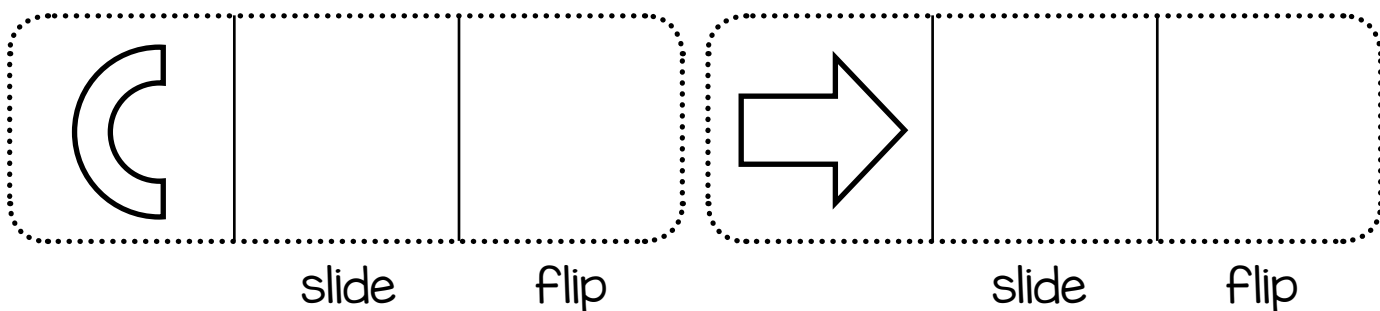
A row of six empty rounded rectangular boxes, each defined by a dotted border, intended for drawing and flipping shapes.

Slide

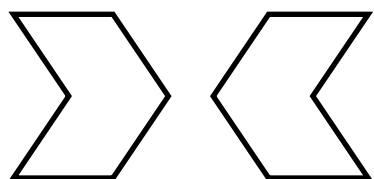
Shape movements

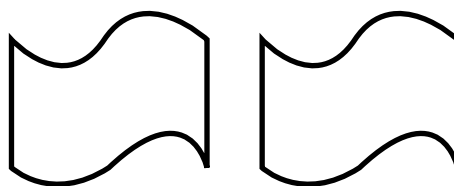
- Trace around a pattern block. Slide it across and trace again. Continue across the page. Choose another pattern block.

- Slide and flip each shape.



- How has the shape been moved? Write slide or flip.

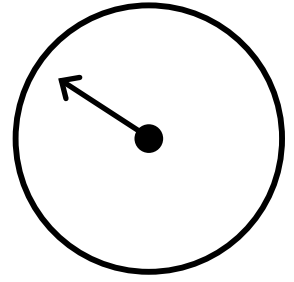
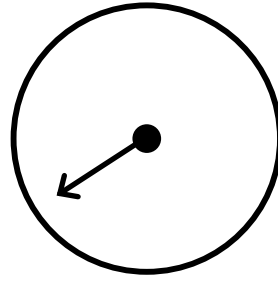
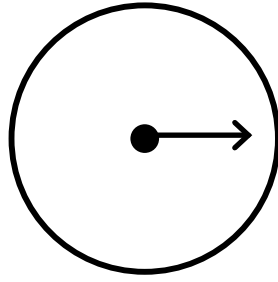
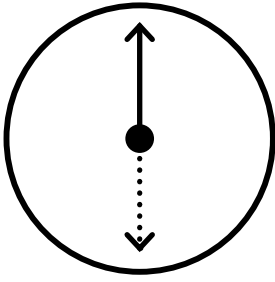




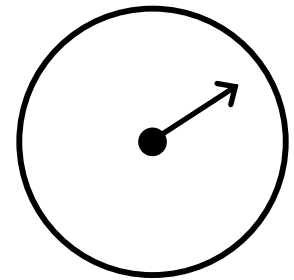
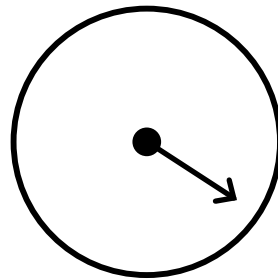
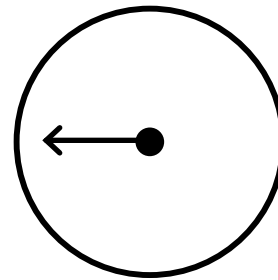
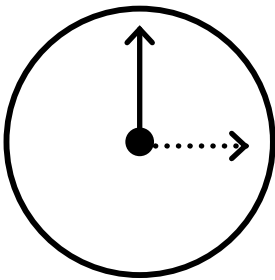
Turns

Shape movements

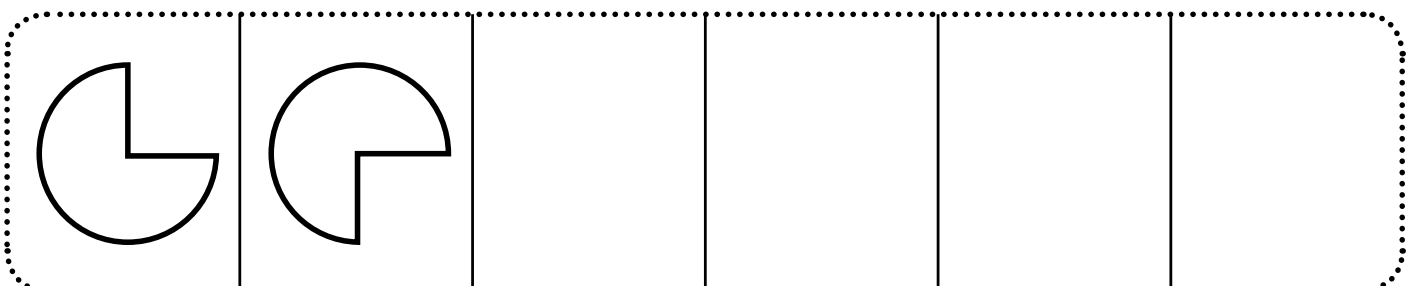
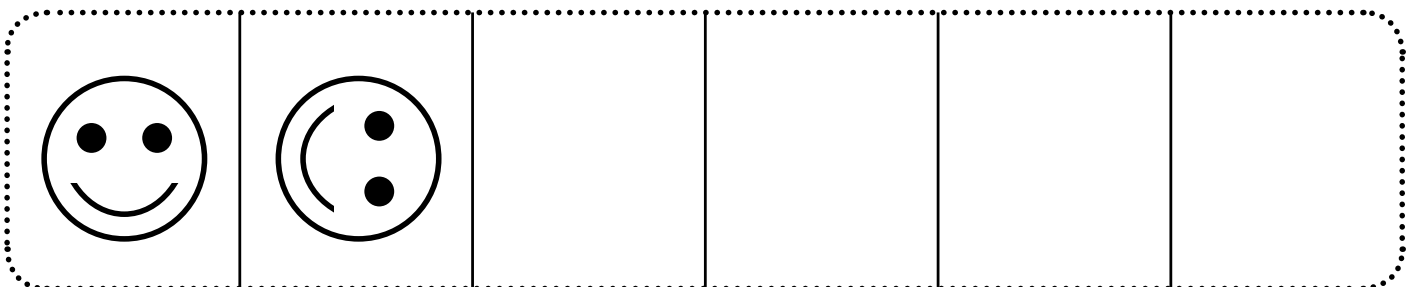
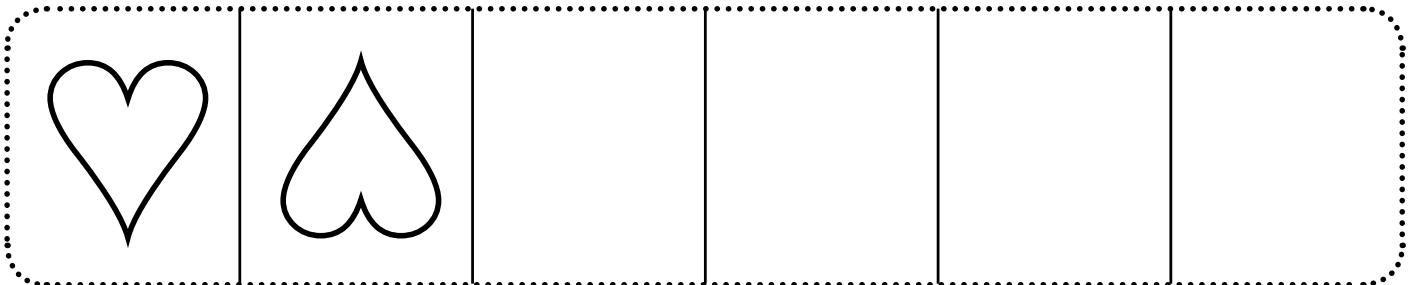
1 Show where the hand would be after a half turn.



2 Show where the hand would be after a quarter turn.



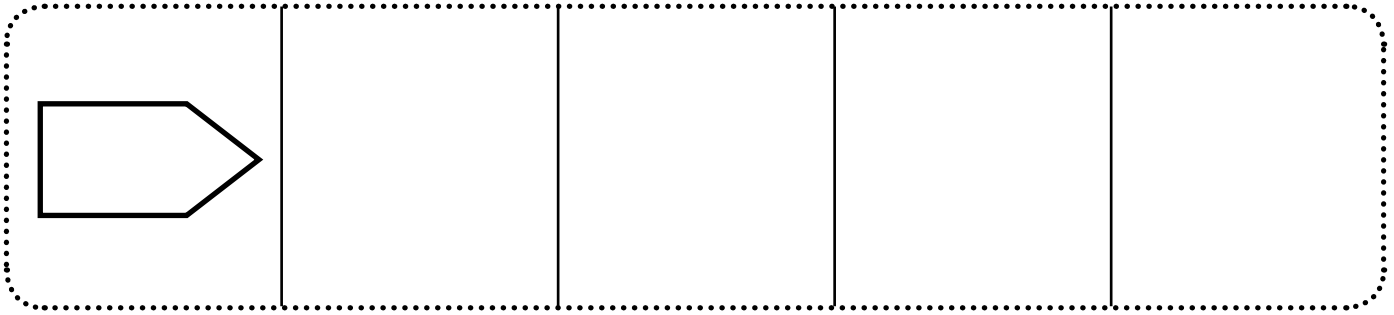
3 Complete the patterns using half or quarter turns.



Flip, slide and turn

Shape movements

1 Draw the shape 4 times.

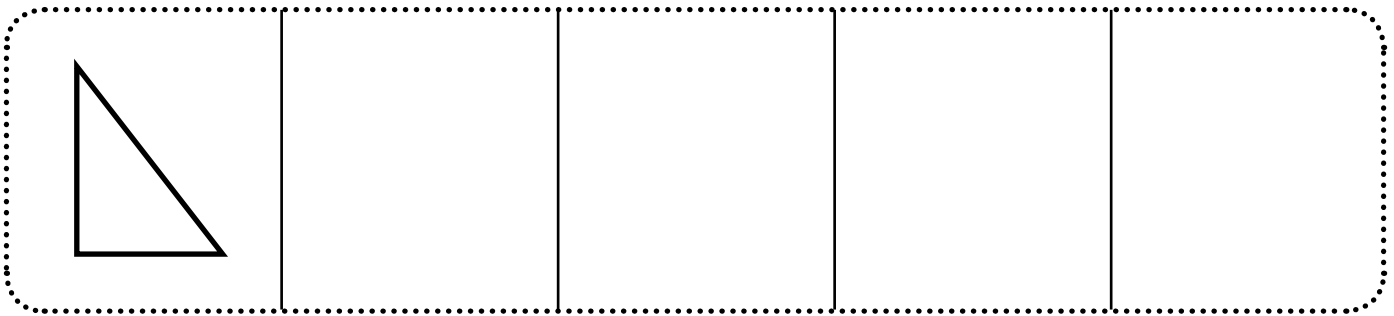


slide

flip

half turn

quarter turn



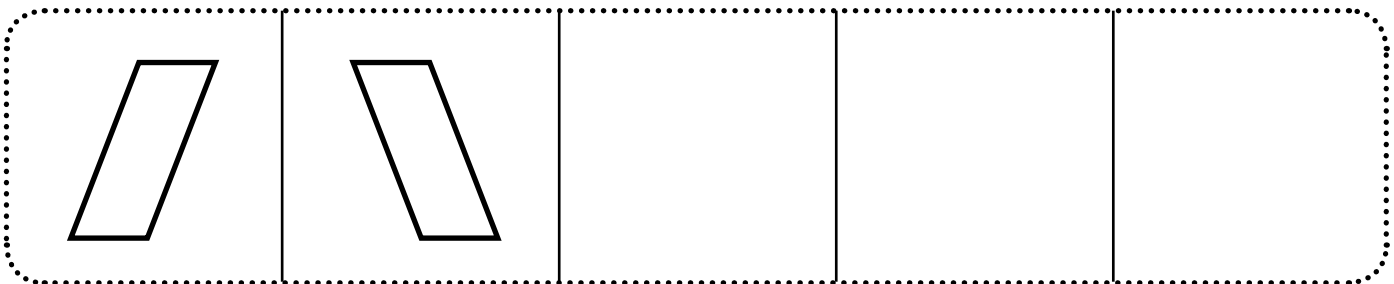
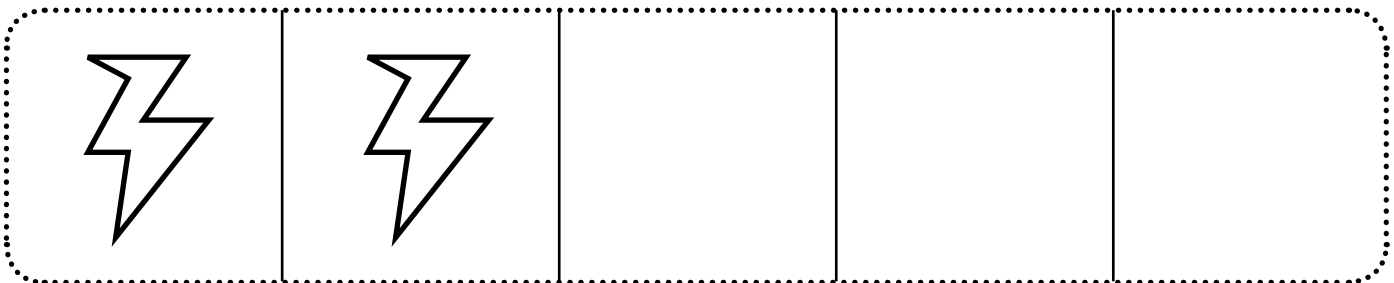
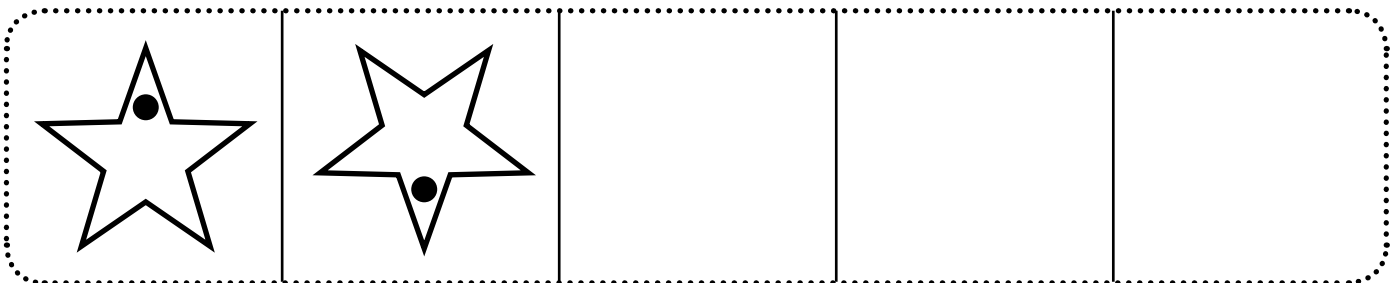
slide

flip

half turn

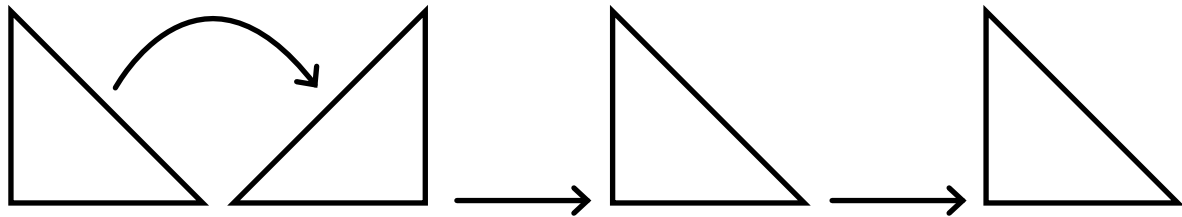
quarter turn

2 Continue the patterns.



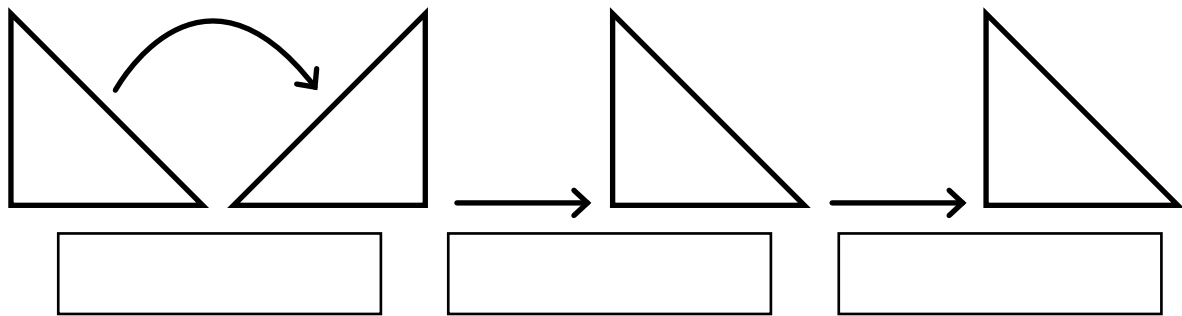
Flip, slide, turn problem

1 Dizzy thinks this shape pattern is flip, slide, $\frac{1}{4}$ turn.

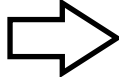


Is he correct?

- a Underline the question.
- b Circle the facts.
- c Act it out to solve the problem. Write the labels.



d Is Dizzy correct? _____

2 Use an arrow  shape to create your own movement pattern. Write the labels.

3 Work with a partner. Act out each other's patterns to check if they are correct.

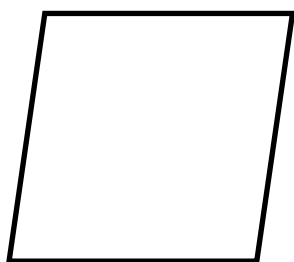
Rhombus

2D shapes

1 Trace and write.

rhombus

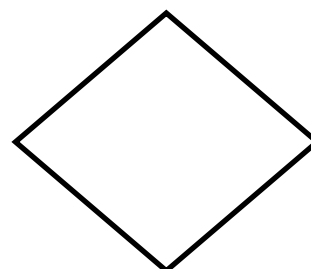
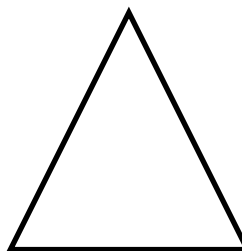
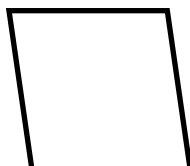
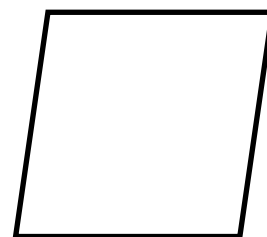
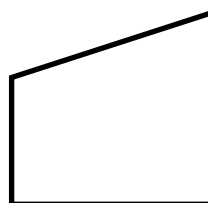
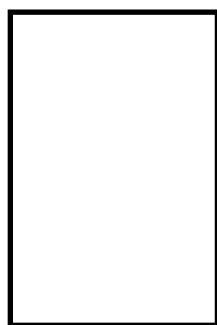
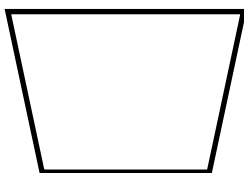
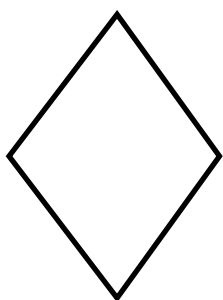
2 A rhombus has



_____ equal sides.

_____ corners.

3 Colour each rhombus.

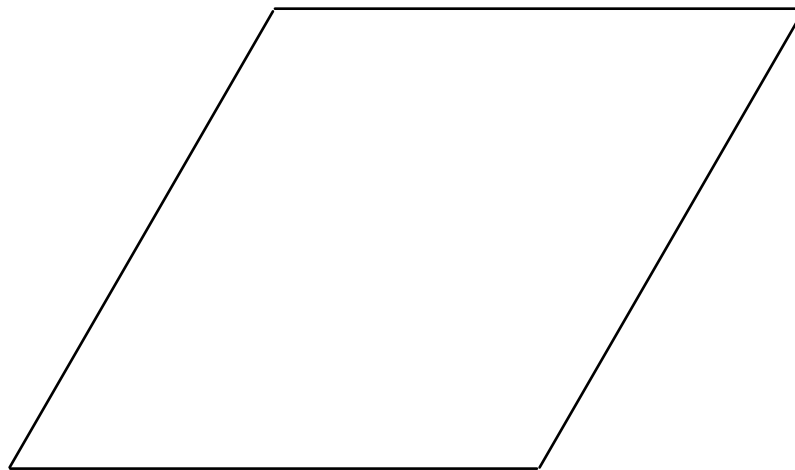


Making a rhombus

1 How can you cover this rhombus with different pattern blocks?

- a** Act it out by placing shapes on top of the rhombus. (Don't leave any gaps!)
- b** Try some other ways. How many different ways can you find? _____

2 a Choose your favourite one. Draw and colour the blocks you used.



b I used _____ pattern blocks.

c List the blocks you used. _____

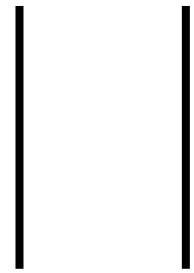
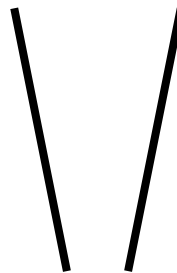
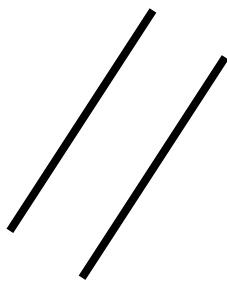
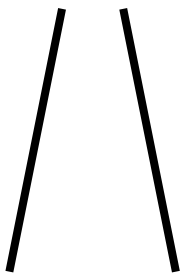
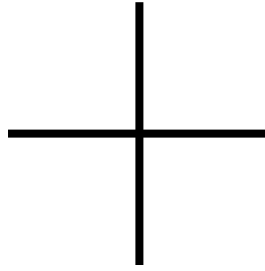
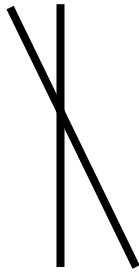
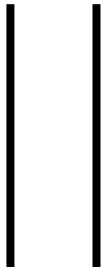
3 a Compare yours with a partner's. Did you use a different number of blocks?

b Did anyone use some squares?

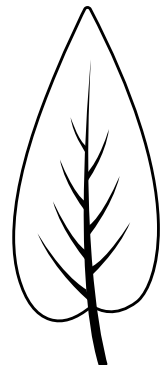
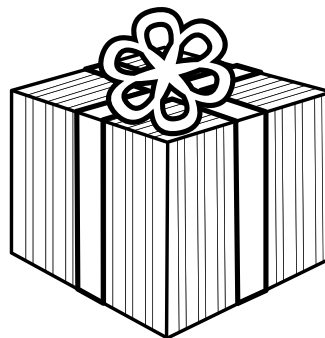
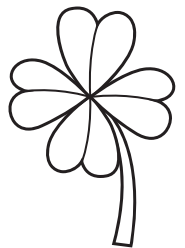
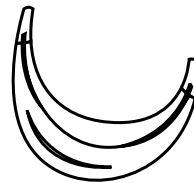
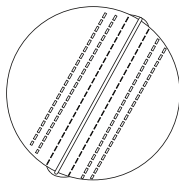
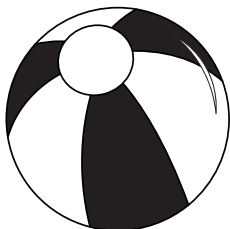
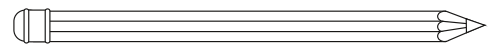
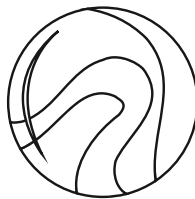
Parallel lines

2D shapes

1 Circle the parallel lines.



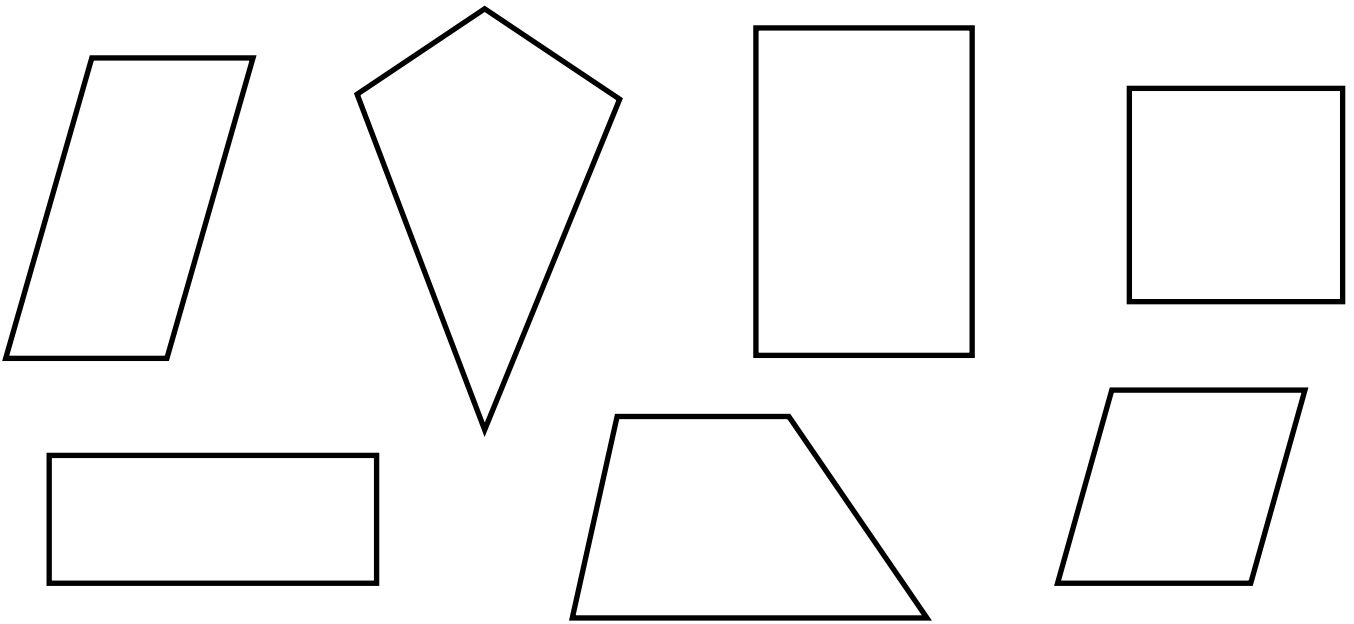
2 Colour the pictures with parallel lines.



Parallel lines in shapes

2D shapes

1 Trace the parallel lines on these shapes with matching colours.



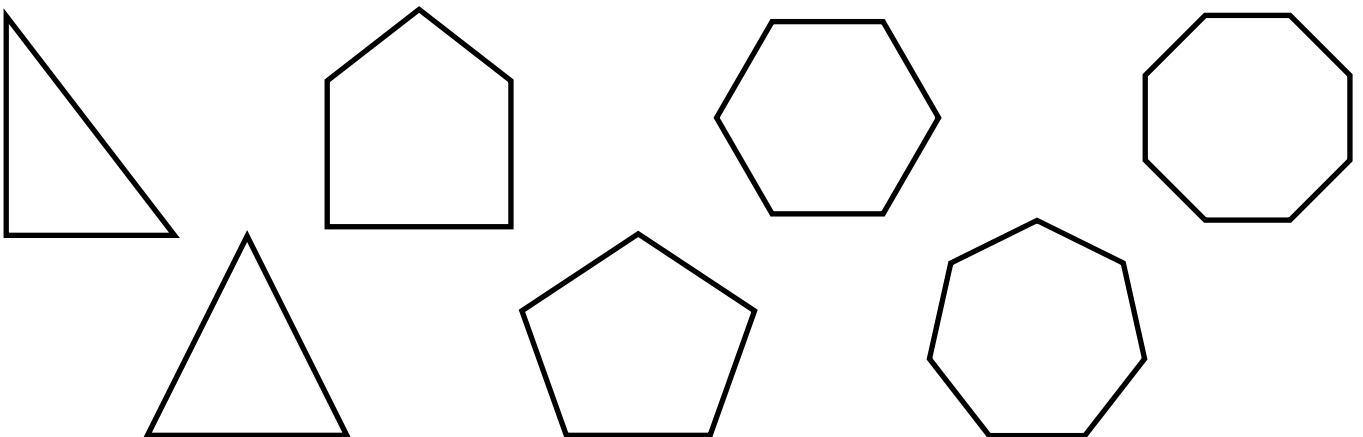
2 Which quadrilaterals have:

two pairs of parallel lines? _____

one pair of parallel lines? _____

no parallel lines? _____

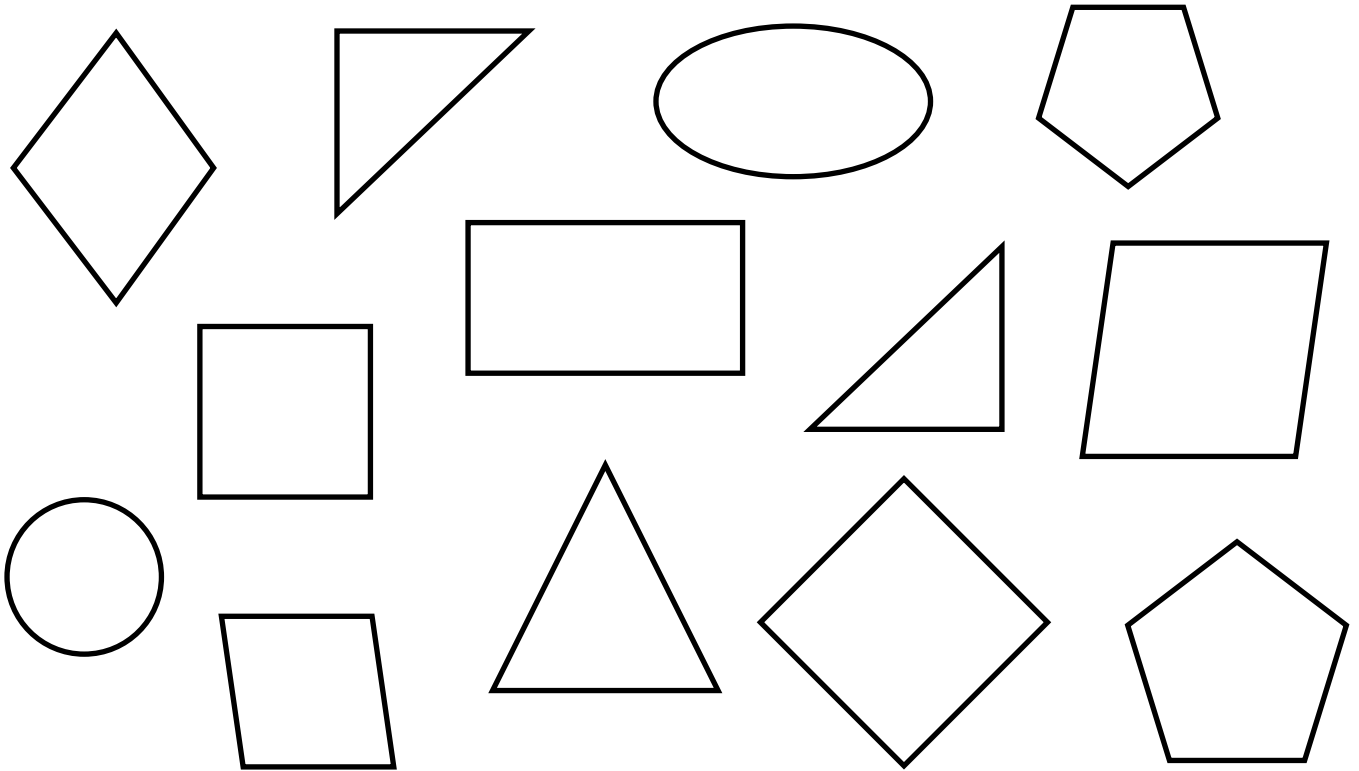
3 Colour the non-quadrilaterals that have parallel lines.



Sorting shapes

2D shapes

1 Colour the shapes with parallel sides.



2 Match.

3 sides

4 sides

