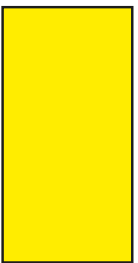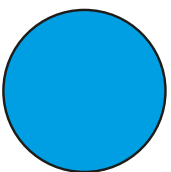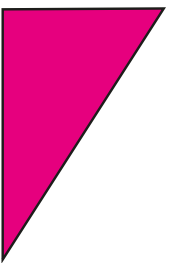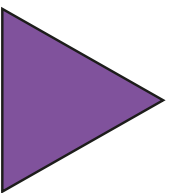# Maths Pack

W/B 25.1.21

A vertical line of symmetry is a straight line that runs down a shape and splits it into two identical halves. Have a go at finding the line of symmetry in the following shapes. Remember the line has to split the shape into two halves that are exactly the same!

1 Tick the shapes that have a vertical line of symmetry.
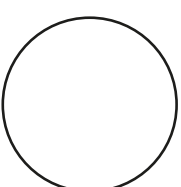
☐

☐

☐

☐

☐

☐

Compare answers with a partner.

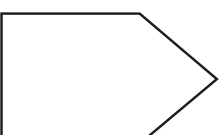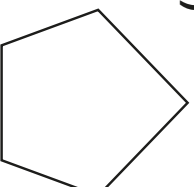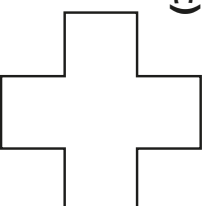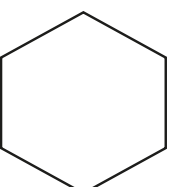**2** Draw the vertical line of symmetry on each shape.
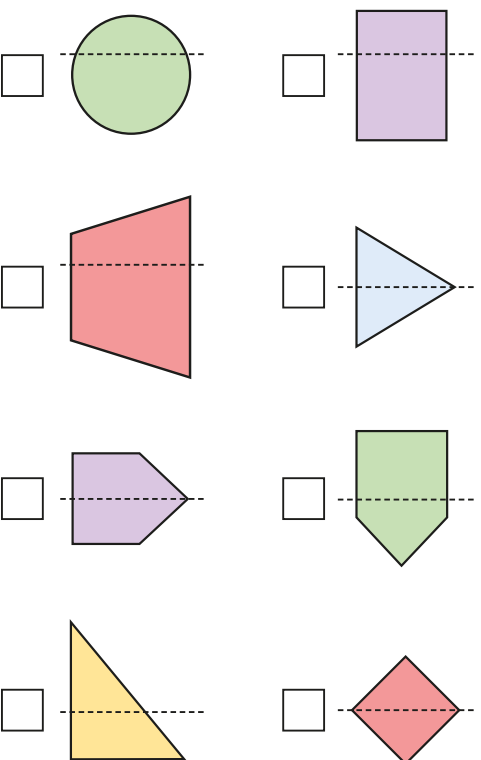
a)

b)

c)

d)

e)

f)

Compare answers with a partner.

3 Annie is drawing a vertical line of symmetry on some shapes.

Tick the shapes that have a correct line of symmetry.

☐ (rectangle with horizontal dashed line)   ☐ (triangle with horizontal dashed line)   ☐ (pentagon with horizontal dashed line)   ☐ (diamond with horizontal dashed line)

☐ (circle)   ☐ (trapezium with horizontal dashed line)   ☐ (pentagon with horizontal dashed line)   ☐ (right-angled triangle with horizontal dashed line)

Talk to a partner about any mistakes Annie has made.

4 Draw a shape that has 6 sides and a vertical line of symmetry.
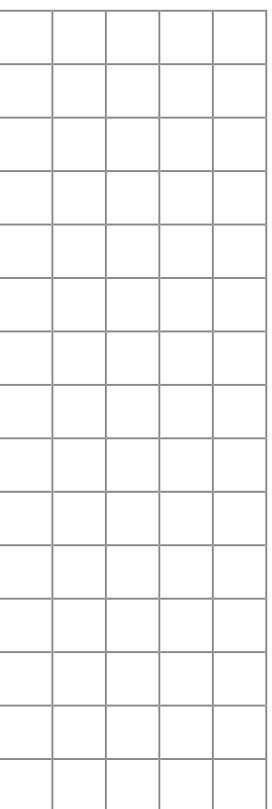
5 Here are some halves of shapes with their vertical line of symmetry drawn.

Complete the shapes.

Write how many sides and how many vertices each shape has.

a)

☐ sides   ☐ vertices

b)

☐ sides   ☐ vertices

c)

☐ sides   ☐ vertices

d)

☐ sides   ☐ vertices

Challenge:

Can you draw a picture using 2D shapes that has a vertical line of symmetry?

Pictures you could draw: flower, person, house, rocket.

TUESDAY

Remember that a vertical line of symmetry is a straight line that divides a shape into two identical halves. Try and complete the 2D shape by drawing the other half of the shape on the grid. Use the squares to help you (if the shape goes 2 squares across on one side of the line draw another line 2 squares across on the other side of the line.

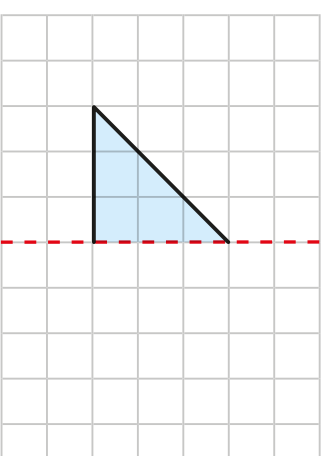**1** Each diagram shows half a shape and the line of symmetry.

Complete each shape.

a)

b)

c)

d)
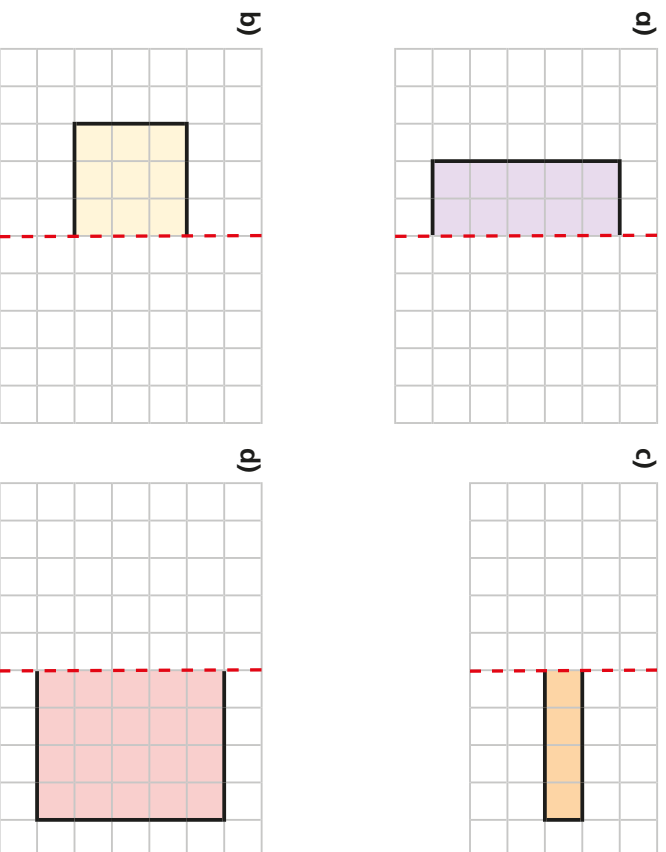
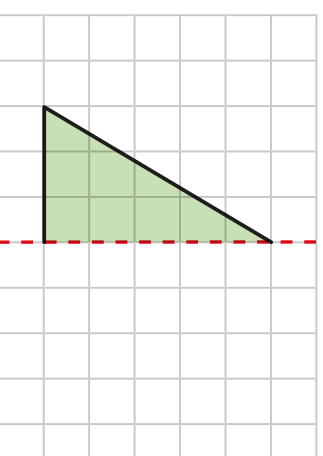**2** Rosie has completed this shape.
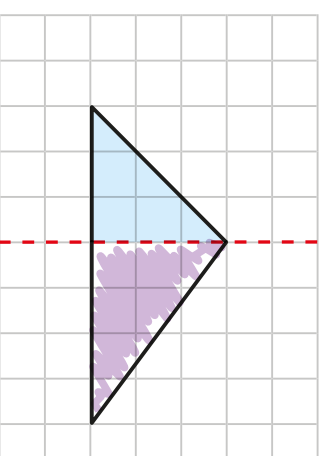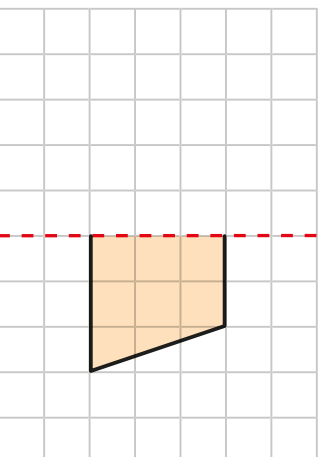
What has she done wrong?
Complete the shape correctly.

3 Each diagram shows half a shape and the line of symmetry.
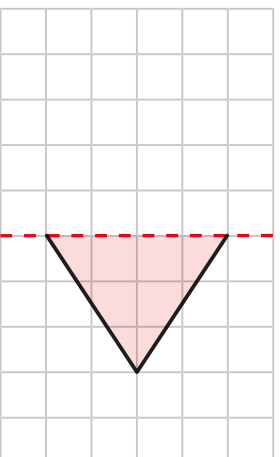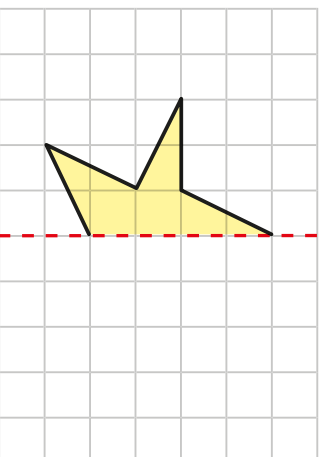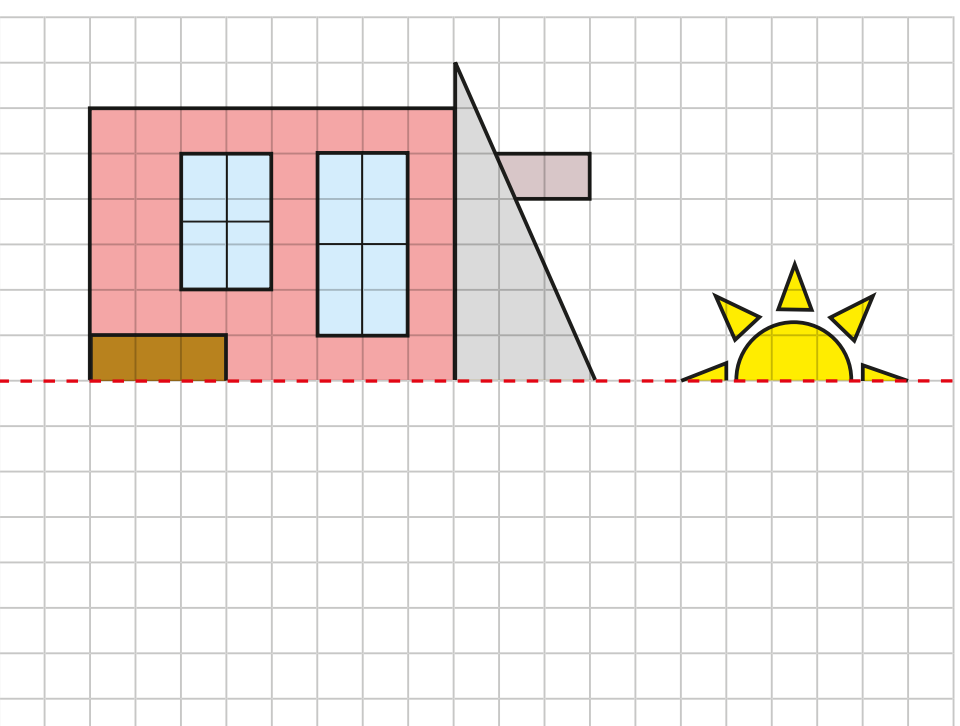
Complete each shape.

a)

b)

c)

4 Here is half a star and its line of symmetry.

Complete the star.

**5** Use symmetry to complete the picture.

Make your own picture like this for a partner to complete.

WEDNESDAY

Read the questions and record the answers underneath. Think about how many sides and vertices the shapes have and if they have curved or straight sides. This will help you work out what is the same and what is different about the shapes.
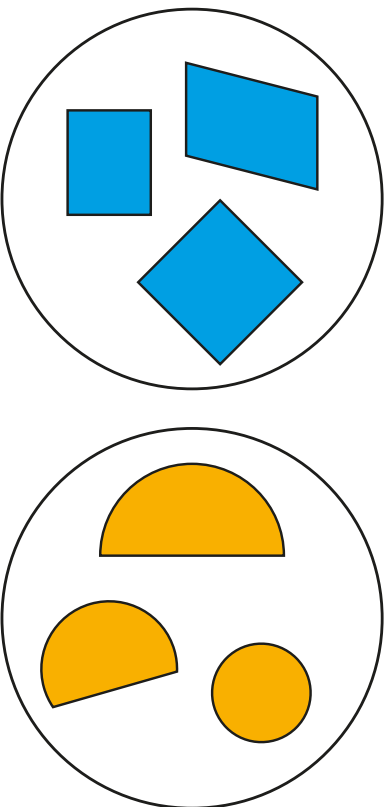
1 Draw lines to sort the shapes into groups.
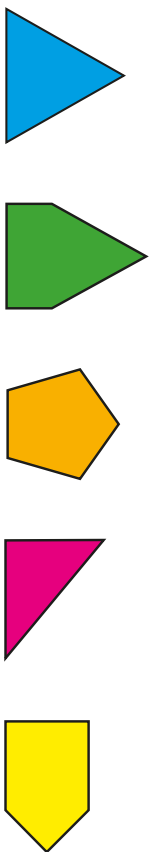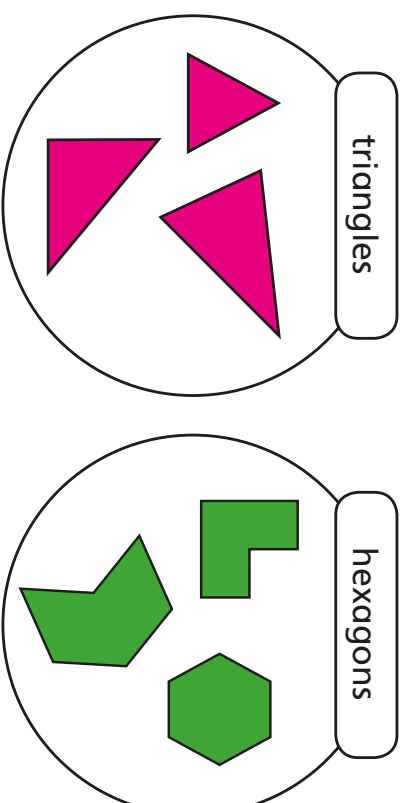
(triangles)

(pentagons)

2 How have the shapes been sorted?

3 Eva sorts some shapes.

(triangles)

(hexagons)

a) Is Eva correct? _____

How do you know?

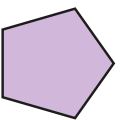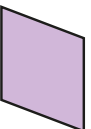**b)** Draw a group of three different pentagons.

(pentagons)

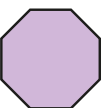**4** **a)** Sort the shapes in order of the number of sides.

Start with the shape that has the fewest sides.
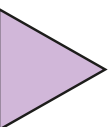
A   B   C   D   E

fewest ___ ___ ___ ___ most

b) Sort the shapes in order of the number of vertices.

Start with the shape that has the fewest vertices.
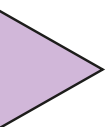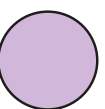
A   B   C   D   E

fewest ___ ___ ___ ___ most
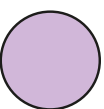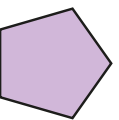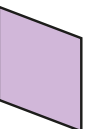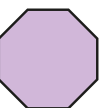
c) What do you notice about your answers to part a) and part b)?

_____

_____

5 Draw three different shapes in each group.

shapes with 4 sides

shapes with an odd number of vertices

shapes with an even number of sides

WALT Compare, sort and describe 2D shapes.

Read the questions and write the answer or draw a picture underneath.

Challenge: Write in sentences and if there is more than one possible answer then try and include them all.

----

1. I am thinking of a 2D shape. It has less than 6 sides. What shape could it be?   Is there more than one possibility?

2. I want to make a flower out of 2D shapes. What shapes could I use?   Write or draw them underneath.

3. I need to draw three 2D-shapes in a pattern. I need to count the sides of all of my shapes and make sure the total is an odd number. What 3 shapes could I use? Write or draw them underneath.

4. What is the same and what is the difference between these shapes?

Challenge: use conjunctions (and, but, so)
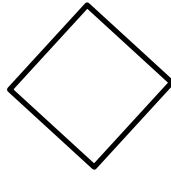
5. What is the same and what is different about these shapes? Write a sentence explaining. Challenge: use conjunctions (and, but, so)

Read the questions and record the answers in the spaces provided. Remember that repeating patterns can have more than two shapes and they can be repeated more than once! Pay close attention to question 5 as it is asking for the 10th shape in the pattern, not just the next shape in the pattern.

1 Draw the next two shapes in each pattern.

a)

b)

c)

2 Tick the shapes that fit in each pattern.

a)

b)

3

My pattern goes: circle, triangle, square, then it repeats.

a) Draw the first 9 shapes in Rosie's pattern.

b) What is the name of the 10th shape in the pattern?

c) What is the name of the shape to the right of the 5th shape?

4 Mo makes a pattern using 4 rectangles, 4 triangles and 4 circles.

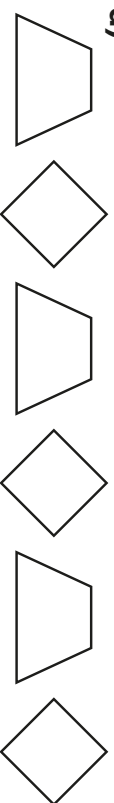What could Mo's pattern be?

Draw two different possibilities.

5 Draw the 10th shape for each pattern.

a)

b)

6 Write your own repeating pattern of shapes.

For example: circle, rectangle, rectangle, circle, rectangle, rectangle …

_____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____ .

Swap with a partner and draw each other's patterns.

7 Draw a shape in each box to make a repeating pattern.

Challenge: one shape must have a curved edge and at least one point and the other shape must have straight edges but it CANNOT be a square, rectangle or triangle.