

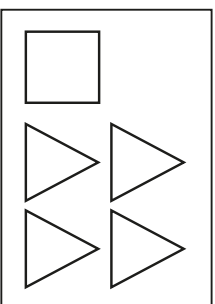
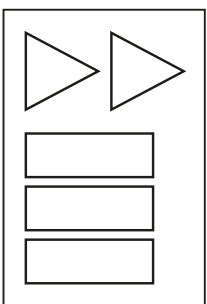
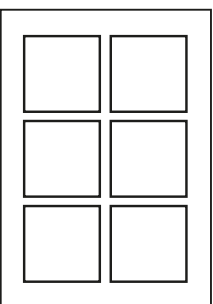
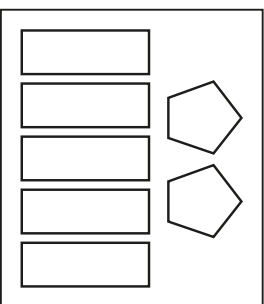
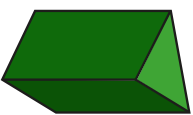
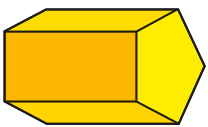
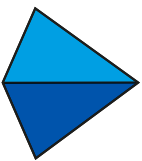
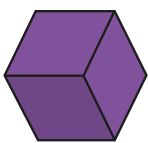
Maths Pack

W/B

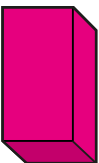

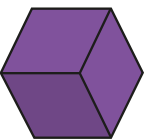
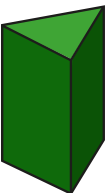
1.2.21

A face is a flat surface on a 3D shape. Some 3D shapes are curved and, because a face has to be flat, these are called curved surfaces. There are three 3D shapes that have curved surfaces. Use this information to answer the questions below.

1 Match the shapes to the faces.



2 Complete the table.

Shape	Name	Number of faces
		
		
		
		

3



My shape has one curved surface.

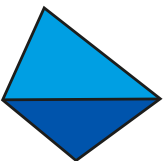
What shape is Jack describing? _____

- 4 Match the description to the shape.

1 circular face and
1 curved surface



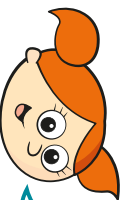
2 circular faces and
1 curved surface



4 triangular faces



5



A cube is the
only 3D shape with
6 faces.

Alex has made a mistake.

Name another 3D shape that has 6 faces.

- 6 Dexter has 5 of the same 3D shapes.



In total, my
shapes have 10
circular faces.

What shapes has Dexter got?

Dexter has got 5 _____

- 7 Dora wants to put a sticker on each face of
some cubes.

She has 60 stickers.

How many cubes can she cover in stickers?

Dora can cover

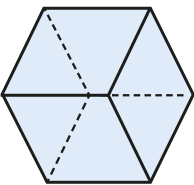


cubes in stickers.

An edge is a line where 2 faces meet. It can be tricky to find all the edges on pictures of 3D shapes. Find a box (tissue box, cereal box etc) and run your fingers along the edges. Then answer the questions below.

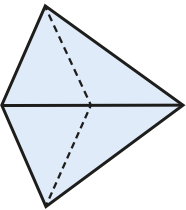
1 How many edges does each shape have?

a)



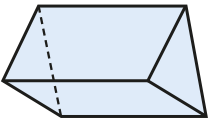
edges

b)



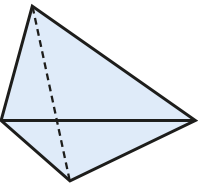
edges

c)



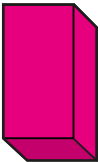
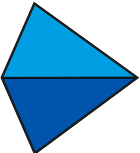


edges

d)



edges

2 Complete the table.

Shape	Name	Number of edges	Number of faces
			
			
			
			

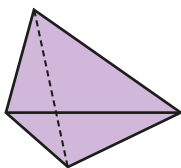
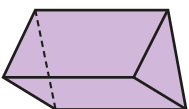
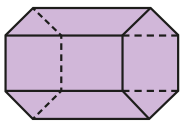
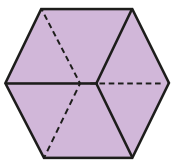
3



3D shapes always have more edges than faces.

Do you agree? _____
Why?

- 4 Use the clues to label the shape with the correct letter.



- Shape A has an odd number of edges.
- Shape B has the most edges.
- Shape C has the same number of edges as a cube has faces.
- The edges of shape D are all the same length.

- 5 Write the name of two 3D shapes that have the same number of edges.

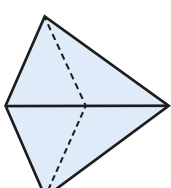
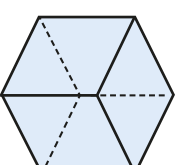
_____ and _____



6



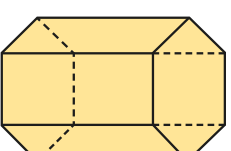
A cube has 6 faces and 12 edges, so a square-based pyramid must have 5 faces and 10 edges. The number of edges is always double the number of faces.



Do you agree with Teddy? _____

Why?

- 7 This hexagonal prism has 18 edges.



How many edges do you think a pentagonal prism has?

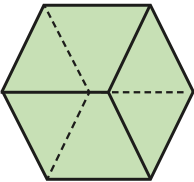
Why do you think this?



"Vertices" is the plural of one vertex. Another term for vertices is corners and these are found where edges meet. Read the questions below and record your answers. Question 5 uses the signs for greater than ($>$), less than ($<$) and equal to ($=$). Remember that the crocodile always eats the biggest number ($34 > 12$).

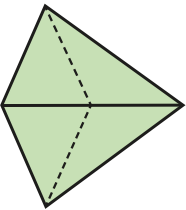
1 How many vertices does each shape have?

a)



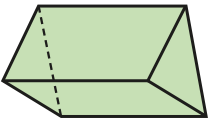
vertices

b)



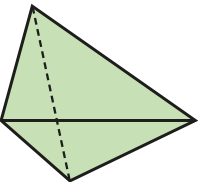
vertices

c)



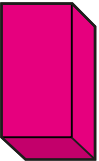
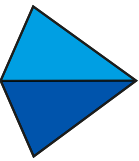
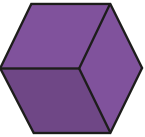
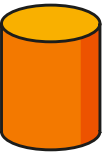
vertices

d)



vertices

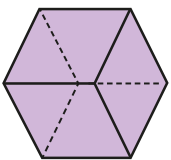
2 Complete the table.

Shape	Name	Number of vertices
		
		
		
		

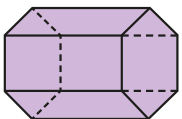
Write the name of a different 3D shape with no vertices.

- 3 Write the shapes in order of the number of vertices.

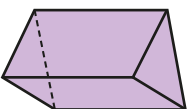
Start with the shape that has the fewest vertices.



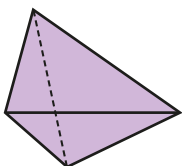
A



B



C



D

fewest

most

- 4 Complete the sentences.

more

fewer

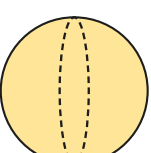
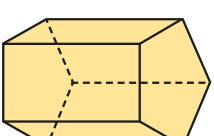
a) A cube has _____ vertices than a sphere.

b) A sphere has _____ vertices than a cone.

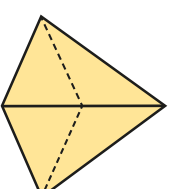
c) A triangular prism has _____ vertices than a cuboid.

- 5 Match each shape to the correct label.

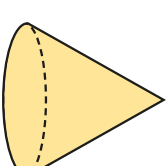
< 5 vertices



= 5 vertices

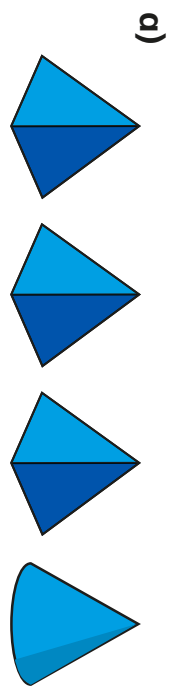


> 5 vertices

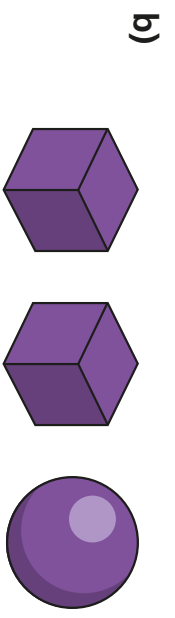


Use what you have learnt about faces, edges and vertices to sort the 3D shapes into different groups

1 Circle the odd one out in each group and complete the sentences.

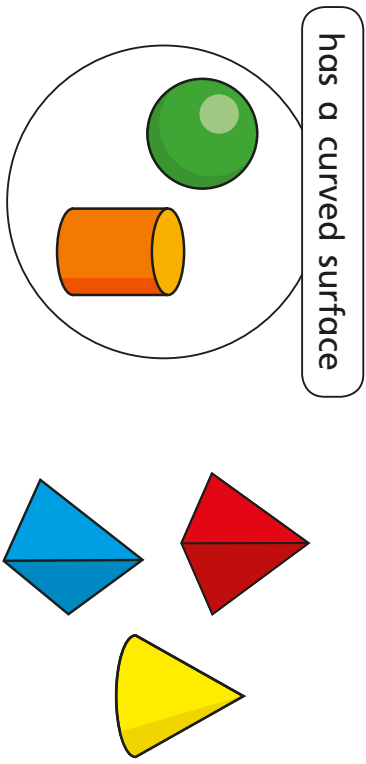


The odd one out is a _____.

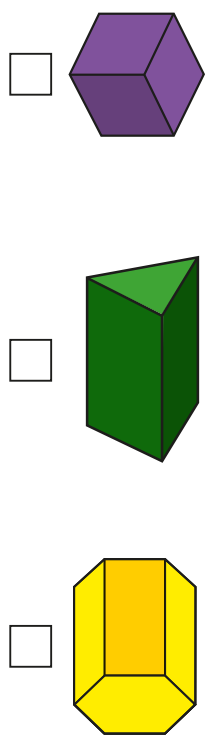


The odd one out is a _____.

2 Tick the shape that could go in the group.

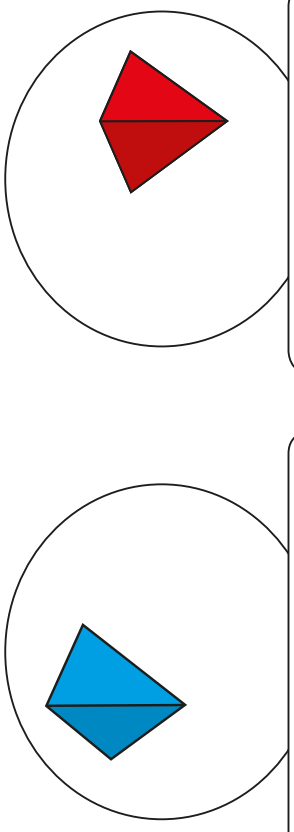


3 Tick the shape that could go in both groups.

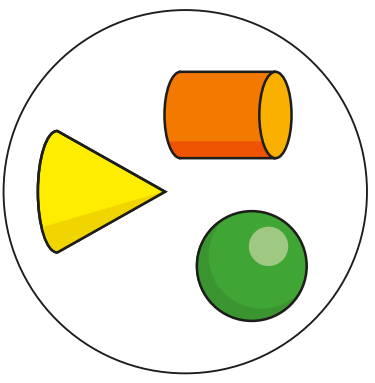


odd number of faces

even number of vertices



4 How have the shapes been grouped?



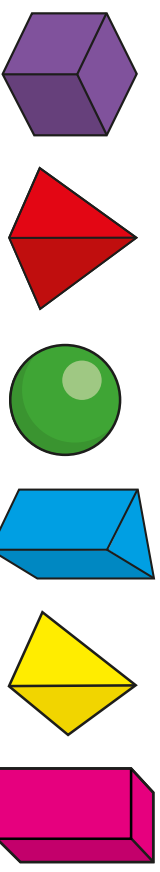
- 5 Write the name of a 3D shape that could go in each group.

has 5 vertices	
has 12 edges	
has 1 curved surface	

Can you think of any other shapes to go in each group?



- 6 a) Draw lines to sort the shapes into two groups.



Group A		Group B	
---------	--	---------	--

b) Give each of your groups a label.

Group A: _____

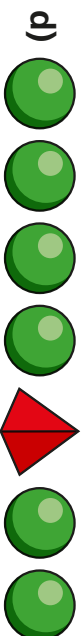
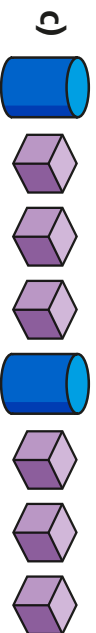
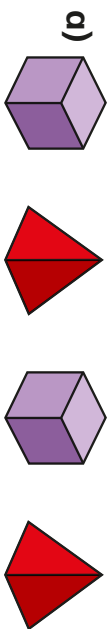
Group B: _____

Challenge: choose two 3D shapes and write one thing that is similar about them and one thing that is different. Write a sentence using the conjunction 'but'.

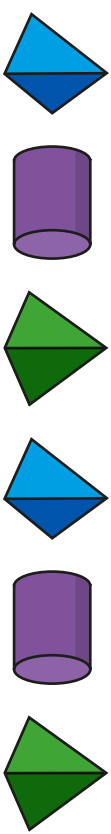


Use what you have learnt about 3D shapes this week to make patterns. Remember to read the questions carefully to find out what you have to do.

1 Draw the next shape in each pattern.



2 What is the name of the 3rd shape in the pattern?



3 Here is a pattern made with 3D shapes.



a) Write the name of the 4th shape in the pattern.

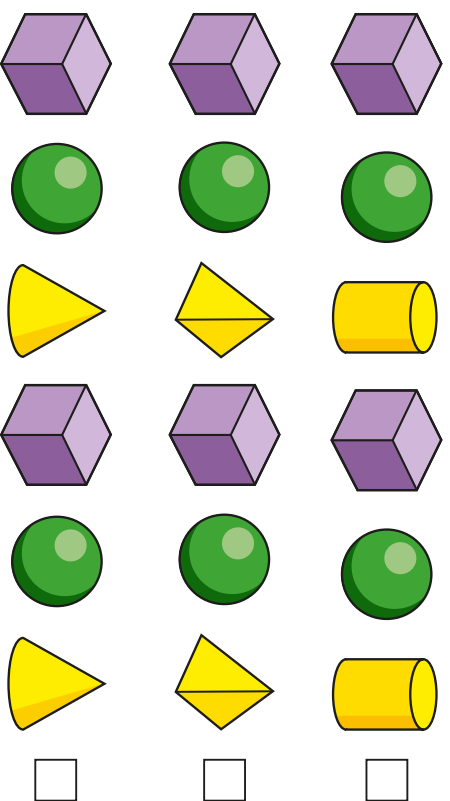
b) What would the 13th shape in the pattern be?



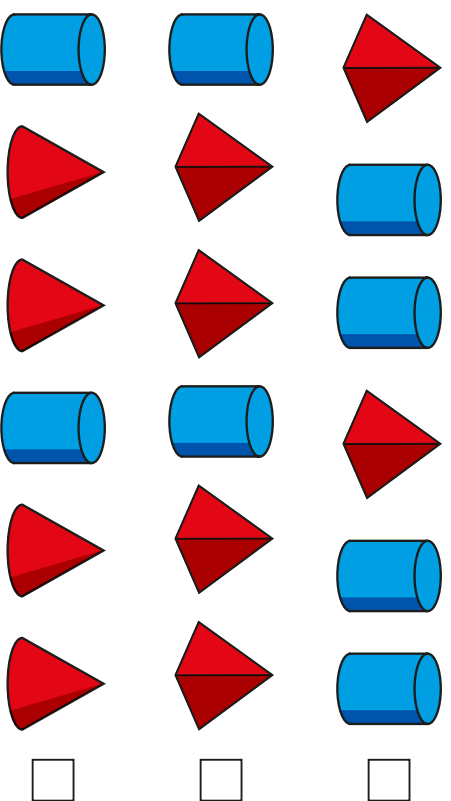
4

Tick the row that shows the pattern.

a) cube, sphere, cone, cube, sphere, cone

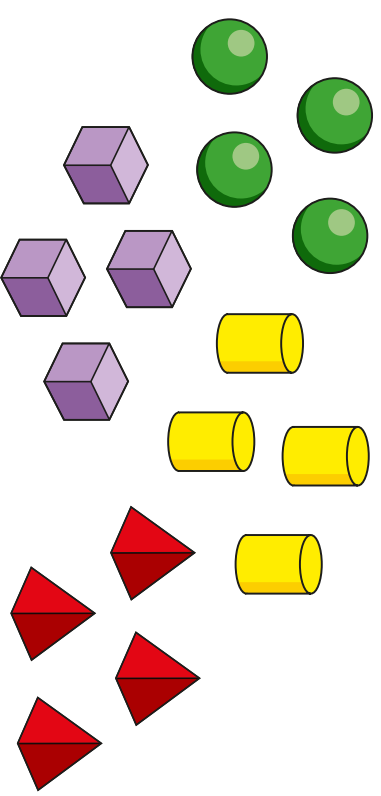


b) cylinder, pyramid, pyramid, cylinder, pyramid, pyramid



5

Eva is making a pattern using these shapes.



a) What pattern could Eva make?

b) Can you arrange Eva's shapes to make a symmetrical pattern?

c) Compare answers with a partner.

