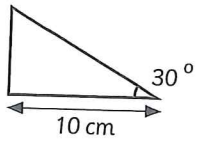
Geometry

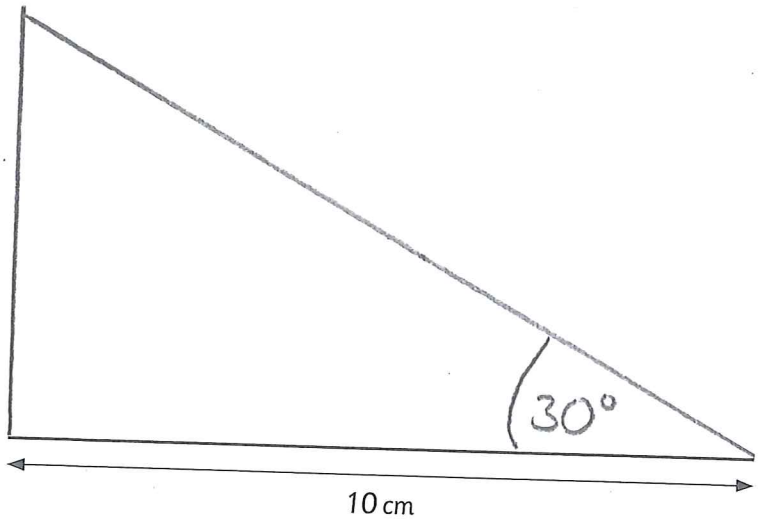
A Drawing 2D shapes

You will need a pencil, ruler, protractor and set square.

1 Draw this triangle to scale.

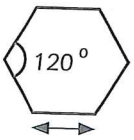


One line is drawn for you.

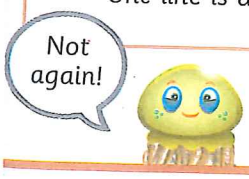


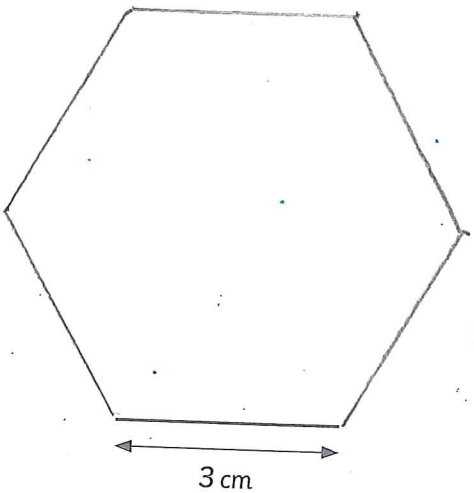
2 Can you draw a rectangle with sides 45 mm and 85 mm in the space below?

3 Try to draw a hexagon with these measurements.



One line is drawn for you.

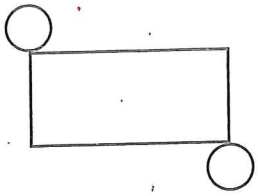




I can draw some 2D shapes. I'm confident ☐ I'm nearly there ☐

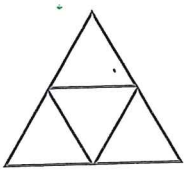
B 3D shapes

What 3D shape can you build using this net?

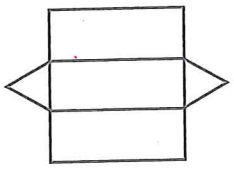


Answer: **A cylinder**

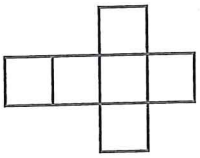
1 Can you spot which 3D shapes these nets are for?



triangular based pyramid or tetrahedron

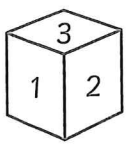


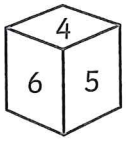
triangular prism



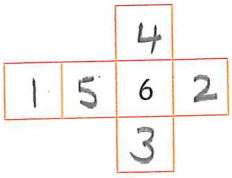
Cube

2 Jon wanted to make his own dice for a board game.



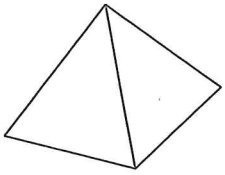


Can you write the numbers in their correct places on this net?



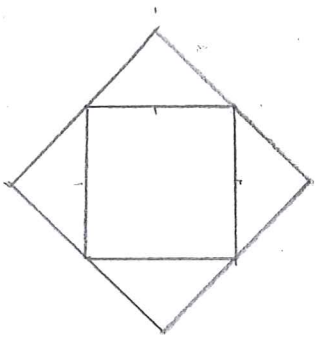
Hint: Opposite sides always add up to 7.

3



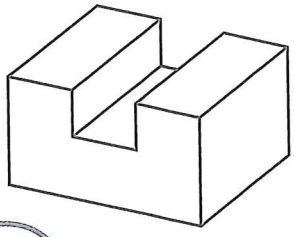
Look at this square based pyramid.

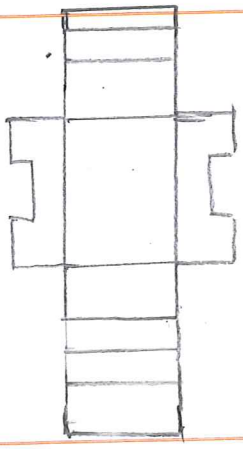
Can you draw a net for it?



4 Try to draw a net for this 3D shape.

Hint: You can copy it on to a piece of paper, cut it out and try it if you want to!





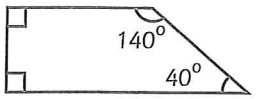
Tricky!

I can recognise 3D shapes and make nets for them. I'm confident ☐ I'm nearly there ☐

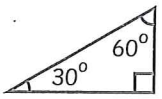
C Properties of shapes

Remember:

The angles inside a quadrilateral add up to **360°**



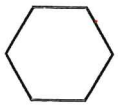
The angles inside a triangle add up to **180°**

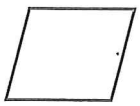


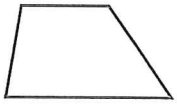
1 Which of these shapes have at least 2 pairs of parallel sides? Circle your answers.


square


pentagon


hexagon


rhombus

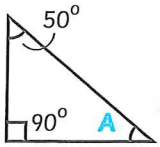

trapezium

2 What quadrilateral is being described here?

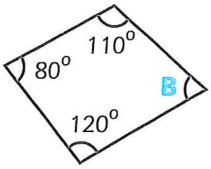
It has 4 sides. Opposite sides are the same length and opposite angles are equal.

rectangle/square/rhombus

3 Can you find the missing angles?



A = 40°

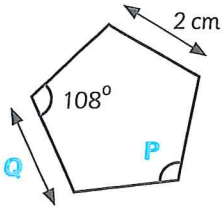


B = 50°

			1	1	0	
9	0			8	0	
5	0		1	2	0	
1	4	0	3	1	0	

4 This is a regular pentagon.

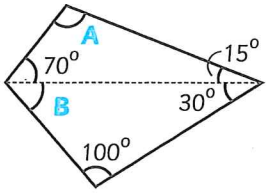
Can you write down the angle **P** and the length **Q**?



Angle **P** = 108°

Length **Q** = 2 cm

5



Can you find angles **A** and **B**?

Angle **A** = 95°

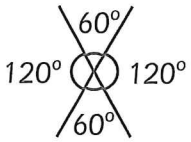
Angle **B** = 50°

	7	0		1	0	0
+	1	5			3	0
	8	5		1	3	0

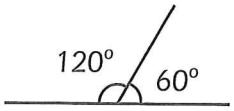
I know some properties of shapes. I'm confident ☐ I'm nearly there ☐

D Angles

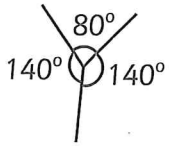
With two straight lines vertically opposite angles are **equal**



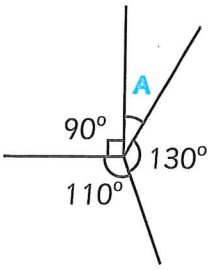
Angles on a straight line add up to **180°**



The angles meeting at a point add up to **360°**



1 Without measuring it, work out the missing angle in this diagram.

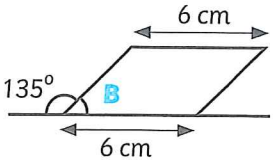


Angle **A** = 30 °

110 + 130 + 90 = 330

360 − 330 = 30

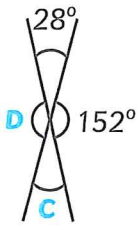
2 Can you find angle **B** without measuring it?



Angle **B** = 45 °

180 − 135 = 045

3

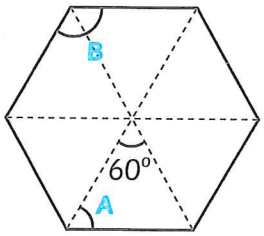


Can you write down angles **C** and **D**?

Angle **C** = 28 °

Angle **D** = 152 °

4 Look at this regular hexagon. What are angles **A** and **B**?



Angle **A** = 60 °

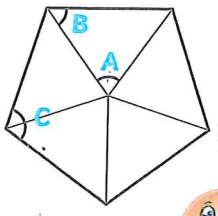
Angle **B** = 120 °

What is the sum of all the interior angles in a hexagon? 720 °

Hint: **B** is an interior angle.

120 × 6 = 720

5 Look at this regular pentagon.



Can you work out angle **A**? 72 °

Now can you work out angle **B**? 54 °

Finally, what is angle **C**? 108 °

540 ÷ 5 = 108

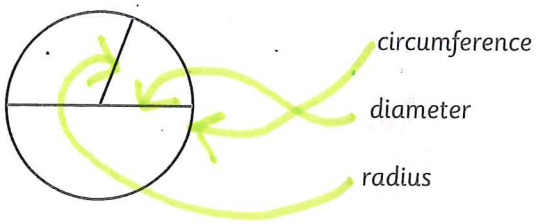
180 − 108 = 072

I can find missing angles. *I'm confident* ☐ *I'm nearly there* ☐

E Properties of circles

You will need to understand the words **circumference**, **radius** and **diameter**.

1 Draw arrows pointing to the parts of this circle.



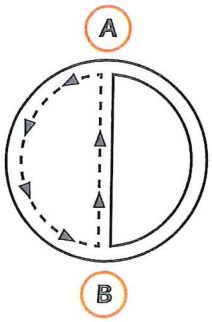
2 A circle has a diameter of 67 mm, what is the radius?

33·5 mm

33·5
2 | 67·0

3 In a maze Billy started at **A** and followed the path shown back to **A**.

If the radius of the maze is 6 m and the circumference is approximately 38 m, how far did Billy walk?

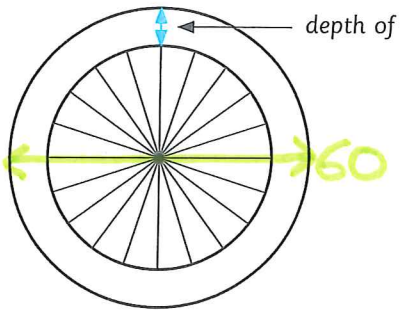


31 m

D = 12 m
C = 38 m
÷C = 19 m

4 The diameter of this wheel with no tyre is 48 cm.

The radius of the wheel with its tyre is 30 cm.



Here we go!

Can you work out the depth of the tyre?

6 cm

5 & 6
- 4 8
1 2

12 ÷ 2 = 6

I know what is meant by the radius, diameter and circumference of a circle.

I'm confident ☐ I'm nearly there ☐