






Shape assessment

2. Recognise, describe and build simple 3D shapes, including making nets.

a) Name these shapes:

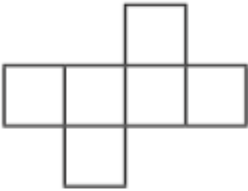
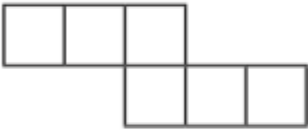
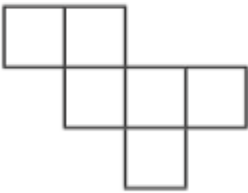
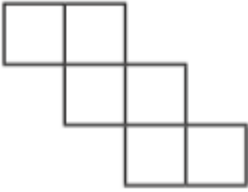
b) Describe the properties of these 3D shapes:

	Number of curved faces	Number of flat faces	Number of edges	Number of vertices
Cube				
Tetrahedron				
Triangular prism				
Cone				
Octagonal prism				

c) Name these shapes:

Properties	name of shape
1 curved face, no flat faces	
8 flat faces, 18 edges, 12 vertices	
5 flat faces, 8 edges, 5 vertices	

d) Marcus makes some nets to make a cube. Write whether each net will make a cube.

Net	Yes or No
	
	
	
	

3. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.

a) Write the names of these shapes in the correct places in this Carroll Diagram.

Oblong

Right-angled triangle

Square

Regular octagon

Parallelogram

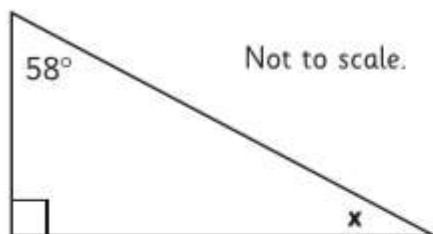
Regular pentagon

Equilateral triangle

	All sides are equal	All sides are not equal
Has at least one right-angle		
Has no right-angles		

b) Calculate the internal angle labelled x in this right-angled triangle.

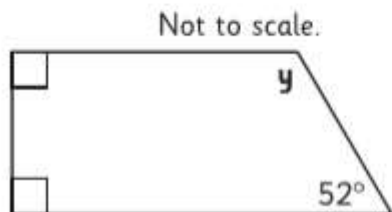
Show your working out.



$$x = \dots\dots\dots^\circ$$

c) Calculate the angle marked y in this trapezium.

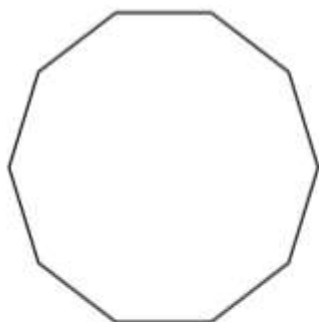
Show your working out.



$$y = \dots\dots\dots^\circ$$

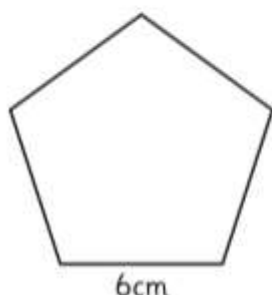
d) Calculate the internal angles of a regular decagon.

Show your working out.



e) Draw a rectangle below, with the same perimeter as the pentagon. The rectangle **does not** need to be drawn to scale; simply label the lengths of the sides.

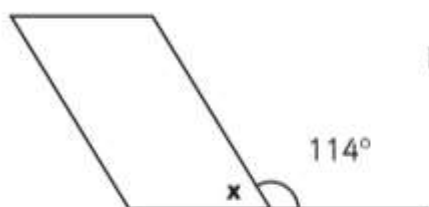
Not to scale.



5. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

a) Calculate the internal angle labelled x in this shape using the information given.

Show your working out.

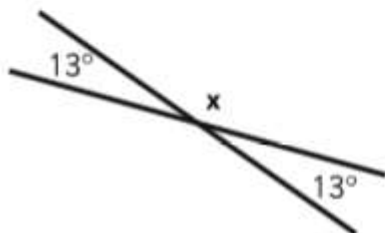


Not to scale.

$$x = \dots\dots\dots^\circ$$

b) What is the measurement of the angle labelled x ?

Show your working out.

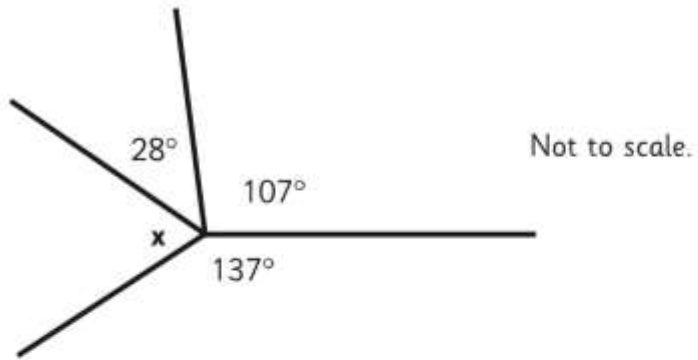


Not to scale.

$$x = \dots\dots\dots^\circ$$

c) What is the measurement of the angle labeled x ?

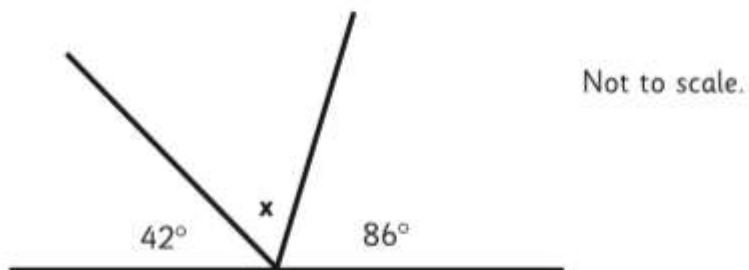
Show your working out.



$$x = \dots\dots\dots^\circ$$






d) Calculate the missing angle:

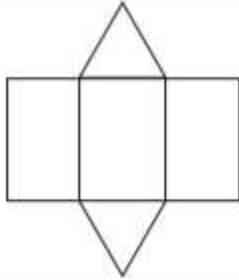
Show your working out.



$$x = \dots\dots\dots^\circ$$

Answers

2. Recognise, describe and build simple 3D shapes, including making nets.							
a		cuboid				5	1 mark for each correct shape name. Accept incorrect spellings, where the intention is clear.
		sphere					
		hexagonal prism					
		square based pyramid					
		cylinder					
b		Number of curved faces	Number of flat faces	Number of edges	Number of vertices	5	1 mark each shape that has all the properties correctly completed. *A cone has an apex, so allow the answer 0.
	Cube	0	6	12	8		
	Tetrahedron	0	4	6	4		
	Triangular prism	0	5	9	6		
	Cone	1	1	1	1*		
	Octagonal prism	0	10	24	16		
c	Properties		Name of shape			3	1 mark for each correct shape name. Accept incorrect spellings, where the intention is clear.
	1 curved face, no flat faces		Sphere or Ovoid (egg shape)				
	8 flat faces, 18 edges, 12 vertices		Hexagonal Prism				
	5 flat faces, 8 edges, 5 vertices		Square-based pyramid				

question	answer	marks	notes
d	All 4 nets will make a cube.	4	1 mark for each correct answer.
e		1	

3. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.

a		All sides are equal	All sides are not equal	1	1 mark for all shapes correctly positioned.
	Has at least one right-angle	Square	Oblong Right-angled triangle		
	Has no right-angles	Equilateral triangle Regular octagon Regular pentagon	Parallelogram		
b	32°			2	2 marks for correct answer. 1 mark for an appropriate calculation, but incorrect answer.
c	128°			2	
d	144°			2	
e	any rectangle with a perimeter of 30cm			1	

5. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

a	66°	2	2 marks for correct answer. 1 mark for an appropriate calculation, but incorrect answer.
b	167°	1	
c	88°	2	2 marks for correct answer. 1 mark for an appropriate calculation, but incorrect answer.
d	52°	2	