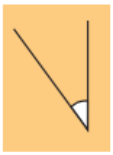
Year 6	Block 12	Unit: Shape

Key Vocabulary:

angle	right angle	acute	obtuse	reflex	protractor	horizonal
vertical	parallel	perpendicular	polygon	regular	irregular	radius	diameter
circumference						

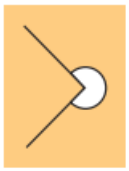
What will I know by the end of this unit?

Measure and classify angles:



Acute Angles
Any angle that measures less than 90° is called an **acute** angle.

Obtuse Angles
Any angle that measures greater than 90° and less than 180° is called an **obtuse** angle.

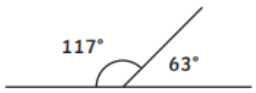


Reflex Angles
Any angle that measures greater than 180° is called a **reflex** angle.

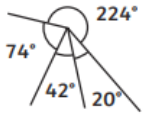
Vertically opposite angles:

Opposite angles that share a vertex are equal.

Calculate angles:

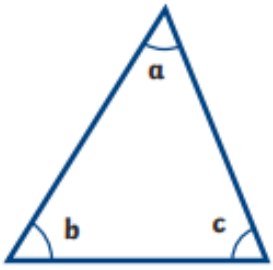


Angles on a straight line always total 180°.



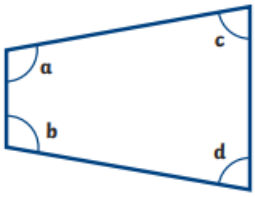
Angles around a point always total 360°.

Angles in a triangle:



a + b + c = 180°

Angles in quadrilaterals:



a + b + c + d = 360°

Angles in polygons:

3D shapes have three dimensions – **length**, **width** and **depth**.

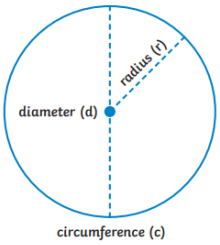
A **polyhedron** is a 3D shape with flat faces. Spheres, cylinders and cones are not polyhedrons as they have curved surfaces.

Cube 6 square faces, 12 edges, 8 vertices	**Tetrahedron** 4 triangular faces, 6 edges, 4 vertices	**Sphere** 1 curved surface, 0 edges, 0 vertices
Cuboid 6 faces, 12 edges, 8 vertices	**Octahedron** 8 faces, 12 edges, 6 vertices	**Triangular prism** 5 faces, 9 edges, 6 vertices
Square-based pyramid 5 faces, 8 edges, 5 vertices	**Cone** 1 circular face, 1 curved surface, 1 curved edge, 1 apex	**Cylinder** 2 circular faces, 1 curved surface, 2 curved edges, 0 vertices

Circles:

A circle is a 2D shape. The perimeter of a circle is called the **circumference** (c). The distance across the circle, passing through the centre, is called the **diameter** (d).

The distance from the centre of the circle to the circumference is called the **radius** (r).



$r \times 2 = d$ $\quad\quad$ $\frac{d}{2} = r$

Nets of 3-D shapes: