**OAK**
Multi Academy Trust

What should I already know?

- *Identify lines of symmetry in 2D shapes presented in different orientations.*
- *Complete a simple symmetric figure with respect to a line of symmetry.*
- *Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and size.*
- *Identify acute and obtuse angles and compare and order angles up to two right angles by size.*
- **Vocabulary I should already know:** *side, edge, vertex, vertices, face.*
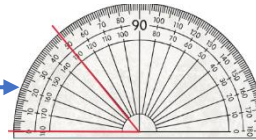
Key Knowledge

Identify 3D shapes, including cubes and other cuboids, from 2D representations.

Plan
Cube model
Plan
Front Elevation
Side Elevation
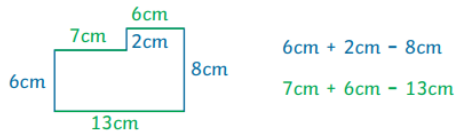Front Elevation
Side Elevation
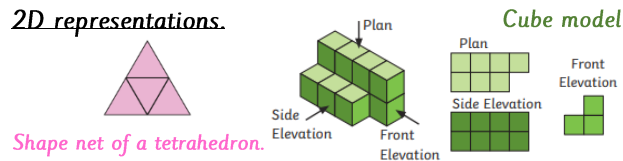
Shape net of a tetrahedron.

**Draw given angles, and measure them in degrees (°) using a protractor.**

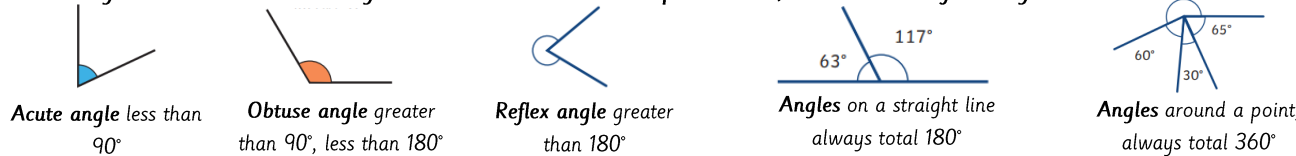*The numbers on the scale count from 0° to 180° in both directions.*

Use the properties of rectangles to deduce related facts and find missing lengths and angles.

6cm
7cm
2cm
6cm
8cm
13cm

6cm + 2cm = 8cm

7cm + 6cm = 13cm

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Regular	Irregular
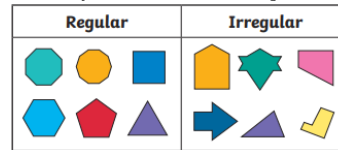
Know angles are measured in degrees (°): estimate and compare acute, obtuse and reflex angles.

205°

117°
63°

60°   65°
30°

Acute angle less than 90°

Obtuse angle greater than 90°, less than 180°

Reflex angle greater than 180°

Angles on a straight line always total 180°

Angles around a point, always total 360°

Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and ½ a turn (total 180°) and other multiples of 90°.

$\frac{1}{4}$ turn = 90° $\frac{1}{2}$ turn = 180° $\frac{3}{4}$ turn = 270°   1 turn = 360°
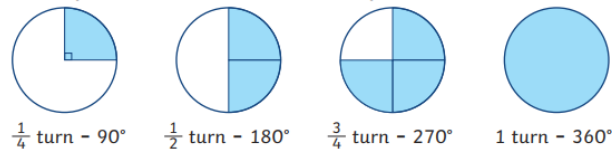
Key Vocabulary and definitions

net of a 3D shape	What the shape looks like if it is opened out flat.
elevation	A height to which something is raised.
protractor	A tool used to measure **angles** in degrees (°).
regular polygon	Any **2D shape** formed with straight sides. All the sides and angles are equal.
irregular polygon	The sides and angles are not equal.
angles	When two straight lines meet at a point (**right angle, acute angle, obtuse angle, reflex angle**).
reflex angle	An **angle** greater than 180°
intersect	Cross e.g., when two or more lines cross or lie across each other.
parallel lines	Lines that never **intersect** e.g., run along next to each other like tracks of a train.
perpendicular lines	Lines that **intersect** one and other at **90°** (right angle).
vertex/vertices	The corner point where straight edges meet.
apex	A cone has an apex because a vertex is a point where 2 straight edges meet and a cone has no straight edges.

Properties of 3D shapes:

Name	Surfaces		Edges		Vertices	Picture
	Flat	Curved	Flat	Curved		
cube	6	0	12	0	8	
cuboid	6	0	12	0	8	
square-based pyramid	5	0	8	0	5	
tetrahedron	4	0	6	0	4	
triangular prism	5	0	9	0	6	
pentagonal prism	7	0	15	0	10	
hexagonal prism	8	0	18	0	12	
octagonal prism	10	0	24	0	16	
octahedron	8	0	12	0	6	