

Essential knowledge

- Know and name 2D and 3D shapes
- Identify and draw nets, plans and elevations of 3D shapes
- Calculate area of 2D shapes
- Calculate volume and surface area of 3D shapes
- Identify congruency

Key Vocabulary

2D- two dimensions to the shape e.g. length and width

3D- three dimensions to the shape e.g. length, width and height

Vertex- a point where two or more line segments meet

Edge- a line on the boundary joining two vertex

Face- a flat surface on a solid object

Cross-section- a view inside a solid shape made by cutting through it

Plan- a drawing of something when drawn from above (sometimes birds eye view)

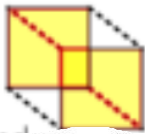
Prior learning links

Year 7 - Lines and Angles

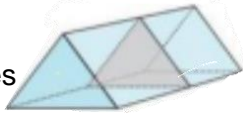
Year 8 - Developing Geometry

Recognise prisms

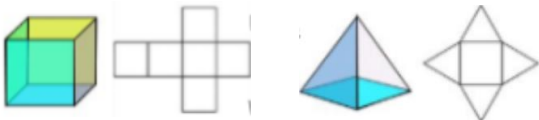
A solid object with two identical ends and flat sides



The cross section will also be identical to the end faces



Sketch and recognise nets



Do they have the same number of faces?

Where do the edges join?

Are the shapes of the faces correct?



Name 2D and 3D shapes



circle



square



rectangle



triangle



rhombus



trapezium



parallelogram



hexagon



cone



cylinder



sphere



cube



triangular prism



tetrahedron

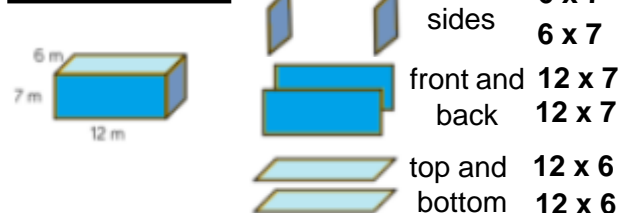


cuboid



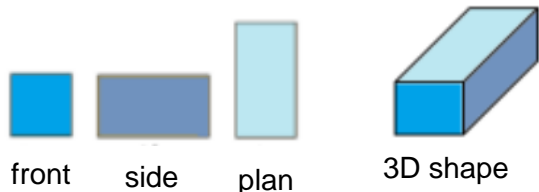
square-based pyramid

Surface area



The surface area is the sum of all the sides

Plans and elevations



Areas – square units Volumes – cube units

Areas and volumes can be left in terms of π

Volume Volume is the 3D space it takes up
 Cubes/ Cuboids = base x width x height
 Prisms and cylinders = area of cross section x height



Prior learning links

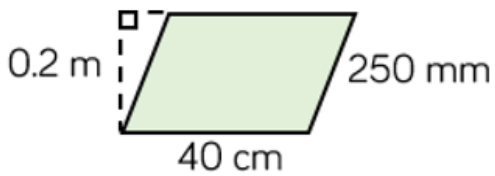
Write the formula for the area of a :

Triangle

Parallelogram

Trapezium

Write the formula to find the volume of a prism.



Key Vocabulary

Define the following words:

Vertex:

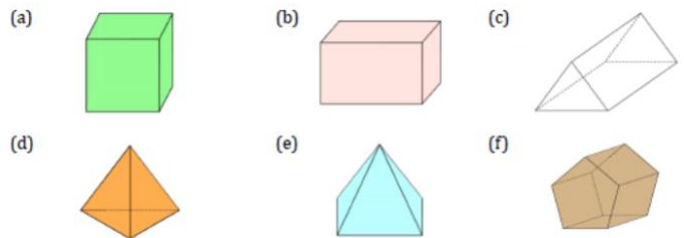
Edge:

Face:

Cross section:

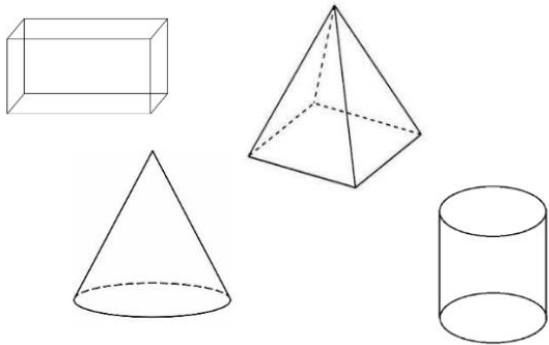
Plan:

Name these 2D and 3D shapes



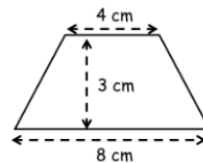
Recognise Prism

Which of these are prisms?



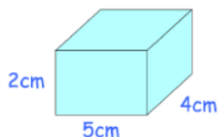
Area of 2D shapes

Calculate the area of this trapezium



Surface area

Calculate the total surface area of the cuboid



Volume

Calculate the volume of this triangular prism

