Planner

Volume

- Calculating the volume of cuboids and of shapes made of cuboids
- Calculating the surface area of cuboids and shapes made from cuboids

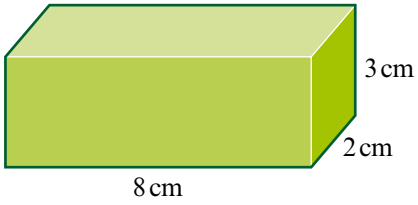
Keywords

You should know

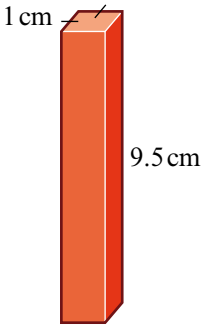
explanation 1a | explanation 1b | explanation 1c | explanation 1d | online

1 Calculate the volume of these cuboids.

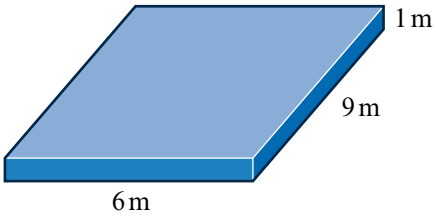
a



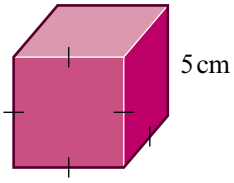
b



c



d



2 Calculate the total surface area of each of the cuboids in question **1**.

3 **a** A cube has edge length 10 mm.
What is its volume in cubic millimetres (mm^3)?

b What is the volume of a cube of edge length 1 cm, in cubic centimetres (cm^3)?

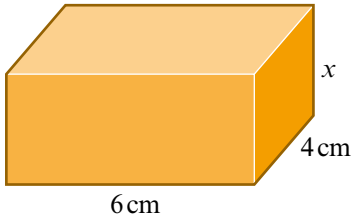
c Ahmed has measured the volume of some containers in cubic centimetres.
What simple rule can he use to convert his measurements into cubic millimetres?

Use your answers to parts **a** and **b**.

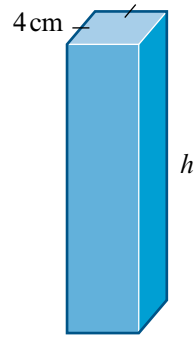
4 The volumes of these cuboids are given.

Calculate the lengths of the sides marked by letters.

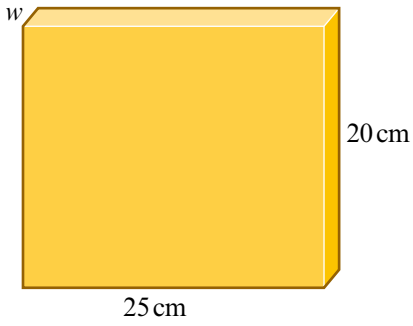
a Volume = 96 cm^3



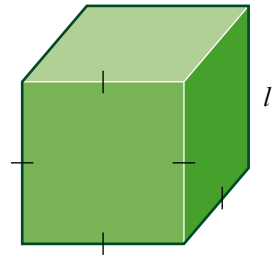
b Volume = 128 cm^3



c Volume = 100 cm^3



d Volume = 343 cm^3



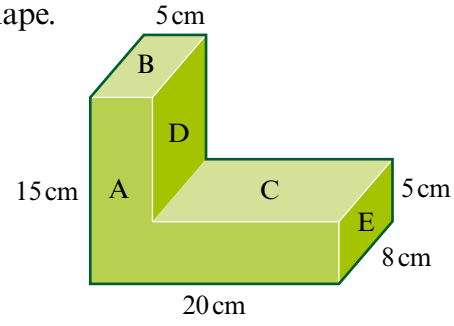
5 Two cuboids are stuck together to make this shape.

a Calculate the volume of the shape.

b What is the area of face A?

c Calculate the surface area of faces B, C, D and E.

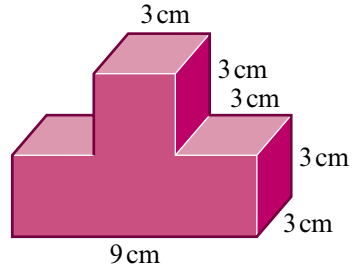
d What is the total surface area of the shape?



6 Two cuboids are stuck together to make this shape.

a Calculate the volume of the shape.

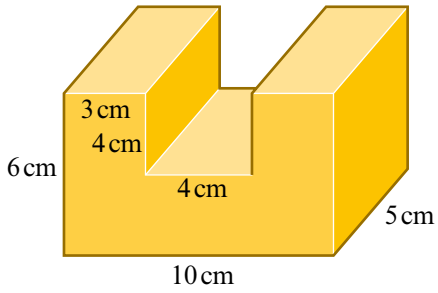
b Calculate the total surface area.



7 Three cuboids are stuck together to make this shape.

a Calculate the volume of the shape.

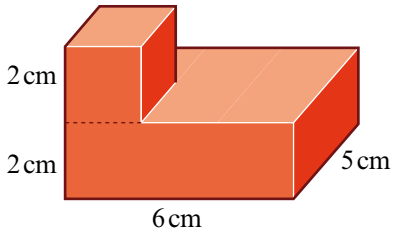
b Calculate the total surface area.



8 A cube of edge length 2 cm is placed on top of a cuboid.

a What is the volume of the combined shape?

b Calculate the total surface area of the shape.



9 Cube A has edge length 2 cm.
The edges of cube B are twice as long as those of cube A.

a Calculate the volume of cube A.

b What is the total surface area of cube A?

c How many times bigger is the volume of B compared to the volume of A?

d How many times bigger is the surface area of B compared to the surface area of A?