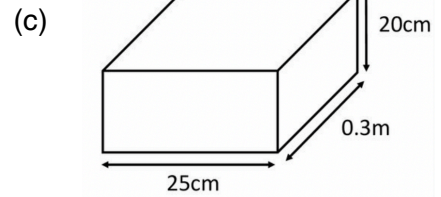
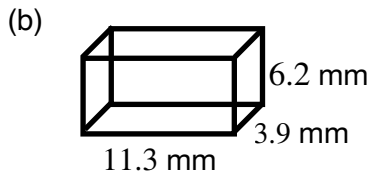
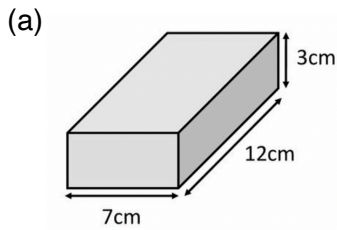


N.B. Make sure you give units in your answer.

E.g. 3 Calculate the volume of these cuboids:

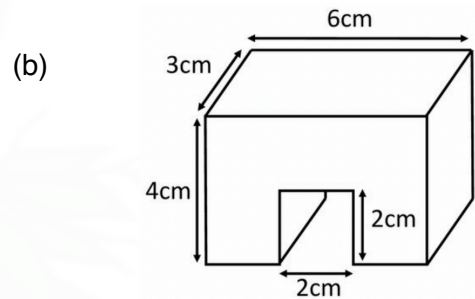
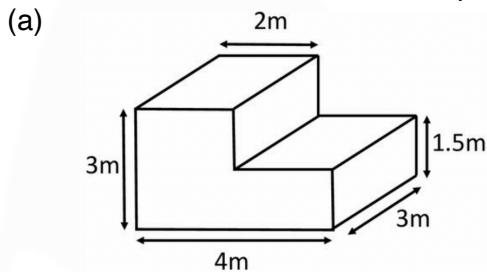


Working: (a) Volume of cuboid = $7 \times 12 \times 3 = 252 \text{ cm}^3$

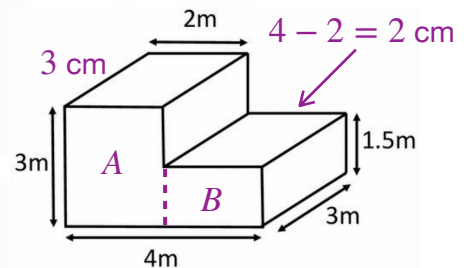
N.B. Make sure the sides of the cuboid are in the **same units before calculating the volume**.

With **compound solids**, some important lengths may need to be calculated.

E.g. 4 Calculate the volume of these compound solids:



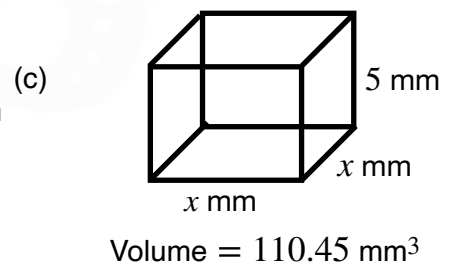
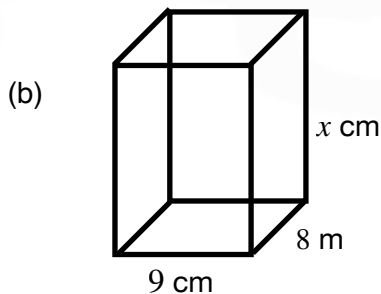
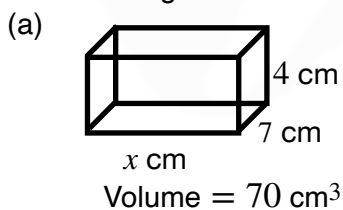
Working: (a) Volume of cuboid A = $2 \times 3 \times 2 = 12$
 Volume of cuboid B = $2 \times 3 \times 1.5 = 9$



Volume of compound solid = $12 + 9 = 21 \text{ m}^3$

N.B. A horizontal line could have been used to split the solid.

E.g. 5 Find the length x :



Working: (a) $4 \times 7 \times x = 70$
 $28x = 70$
 $x = \frac{70}{28} = 2.5 \text{ cm}$

E.g. 6 A swimming pool measures 6 m by 20 m by 2 m. Water is pumped into the pool at a rate of 5 m³ per minute. How long will it take to fill the pool?

Video: [Volume of cubes and cuboids](#)

[Solutions to Starter and E.g.s](#)

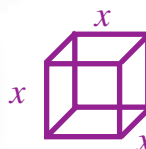
Exercise

Volume as a concept: CIMT Y7B p164 Ex 22.1
Volume of cube: CIMT Y7B p168 Ex 22.2
Volume of cuboid: CIMT Y7B p171 Ex 22.3

Summary

The volume of a **cube** is **cube of the side length**.

Volume of cube = $x \times x \times x = x^3$
where x is the length of one side of the cube.



The volume of a **cuboid** is the **product of the lengths of the three sides**.

Volume of cuboid = length \times width \times height



N.B. Make sure you give units in your answer.
Make sure the sides of the cuboid are in the **same units before calculating the volume**.
With **compound solids**, some important lengths may need to be calculated.
When using different units, **convert to the required unit before** calculating the volume.