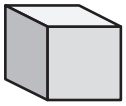
Volume and capacity – measuring volume with cubic centimetres

Volume is the amount of space that an object takes up.

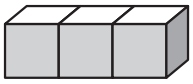
To measure volume we use cubic centimetres.



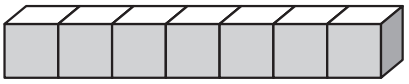
One cubic centimetre is 1 cm long, 1 cm wide and 1 cm high. The symbol we use for cubic cm is cm^3.

1 cm × 1 cm × 1 cm = 1 cm^3

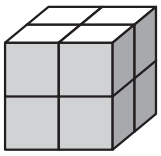
1 **Use centicubes or base 10 ones to create the following models. Then count the number of cubes to work out the volume of each model.**



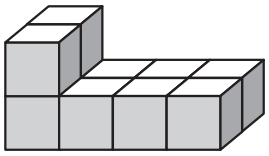
a ☐ cubic centimetres



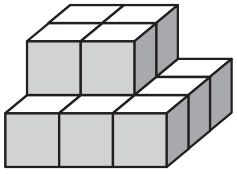
b ☐ cubic centimetres



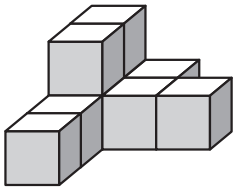
c ☐ cubic centimetres



d ☐ cubic centimetres



e ☐ cubic centimetres



f ☐ cubic centimetres

2 **For this next task, you will need 27 cubes.**

a Use all 27 cubes to make a model that is 3 cubes long and 3 cubes wide.

b What is the volume of a model that is 4 cubes long, 2 cubes wide and 2 cubes high?

☐ cubic centimetres

Counting cubes — investigate

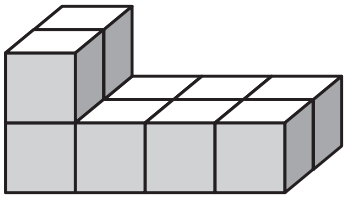
Getting ready

You can use cubes to help with these problems.

What to do

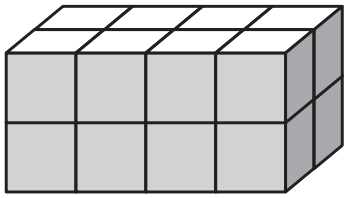
1 How many more cubes are needed to make each model a total volume of 64 cubic centimetres?

a



☐ more cubes

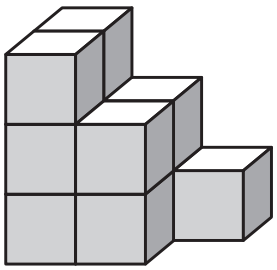
b



☐ more cubes

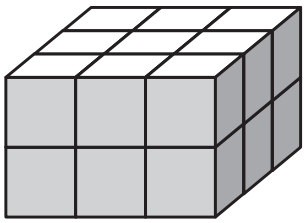
2 How many more cubes are needed to make each model a total volume of 27 cubic centimetres?

a



☐ more cubes

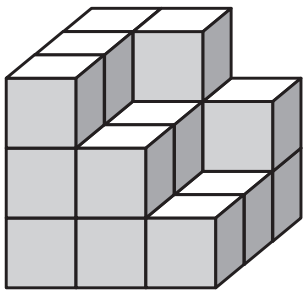
b



☐ more cubes

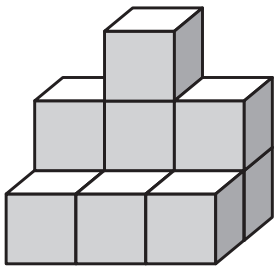
3 How many more cubes are needed to make each model a total volume of 125 cubic centimetres?

a



☐ more cubes

b



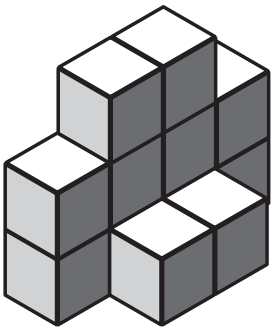
☐ more cubes

Finding the Volume by Counting Cubes

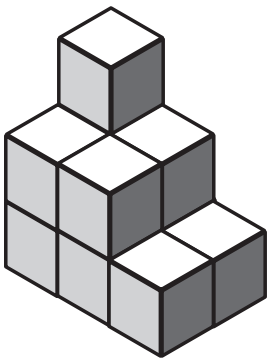
What is the volume of each shape below?

 = 1 cubic unit

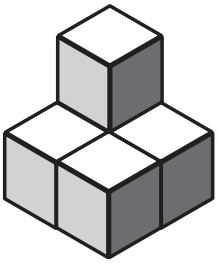
1.



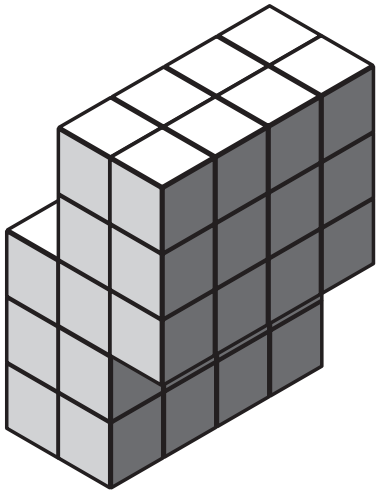
2.



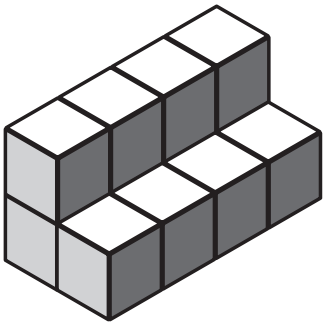
3.



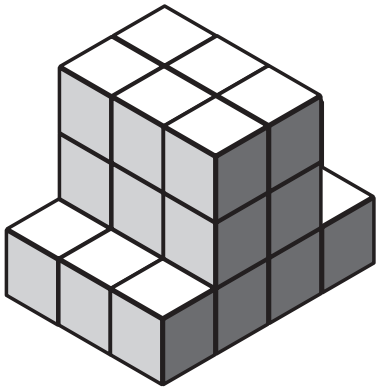
4.



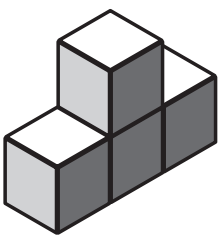
5.



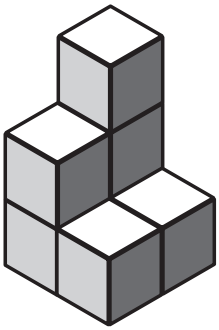
6.



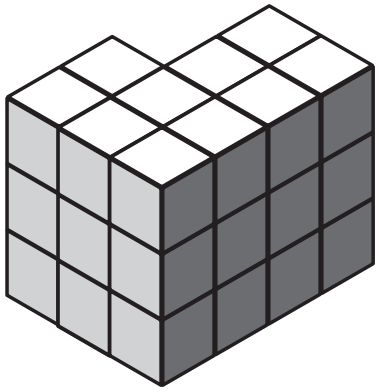
7.



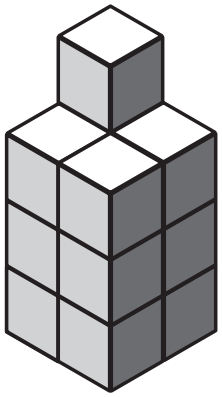
8.



9.



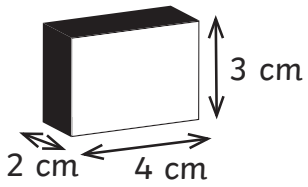
10.



Volume of Rectangular Prisms

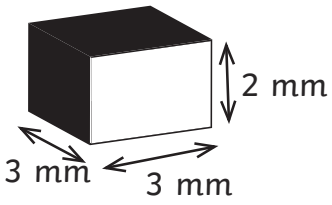
Find the volume of each rectangular prism.

1.



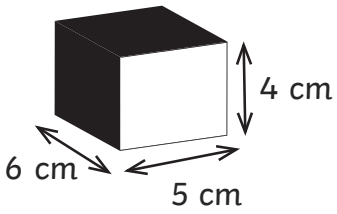
Volume = _____

2.



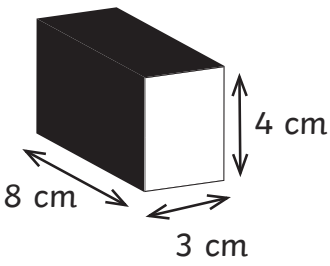
Volume = _____

3.



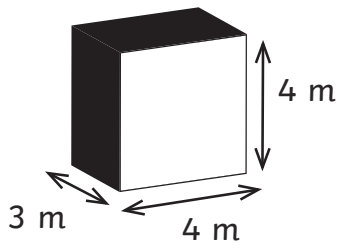
Volume = _____

4.



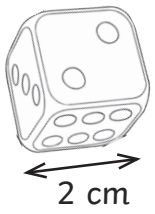
Volume = _____

5.



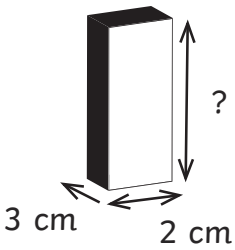
Volume = _____

6.



Volume = _____

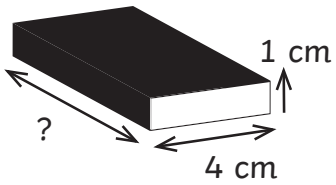
7.



Total volume: 42 cm^3

Height = _____

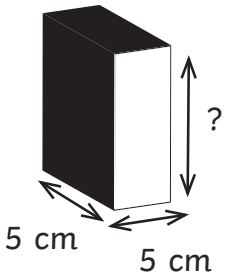
8.



Total volume: 36 cm^3

Length = _____

9.

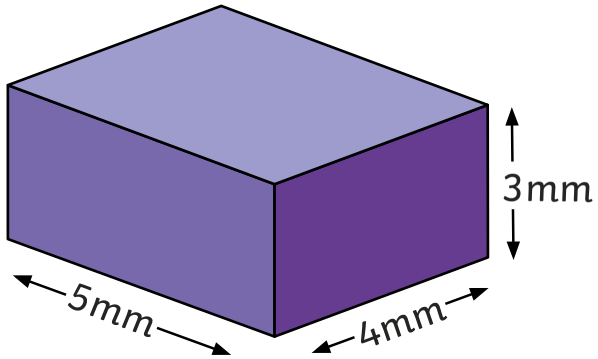


Total volume: 50 cm^3

Height = _____

Find the Volume Using a Formula

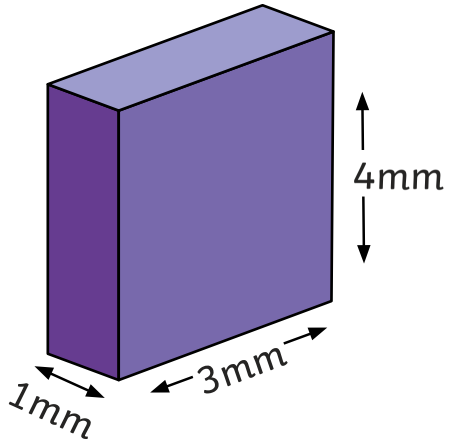
Find the volume of the cuboid using a formula.



Volume:

_____

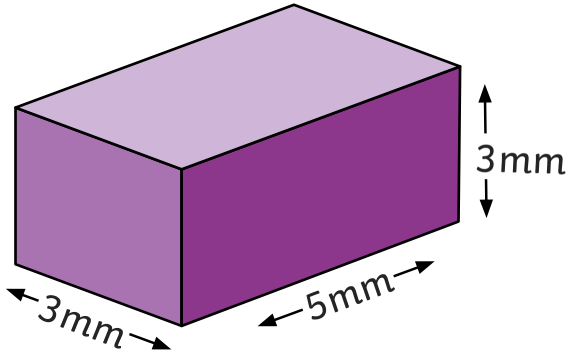
Find the volume of the cuboid using a formula.



Volume:

_____

Find the volume of the cuboid using a formula.

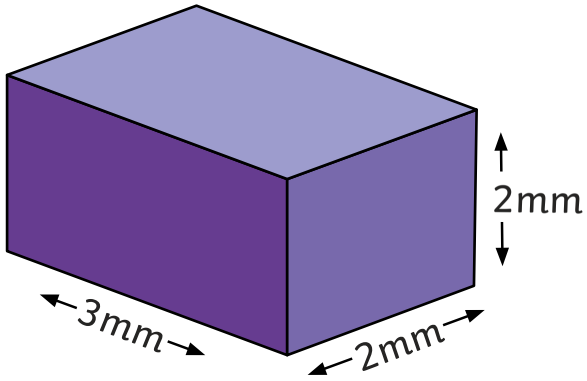


Volume:

_____

Volume of Cuboids Question 4

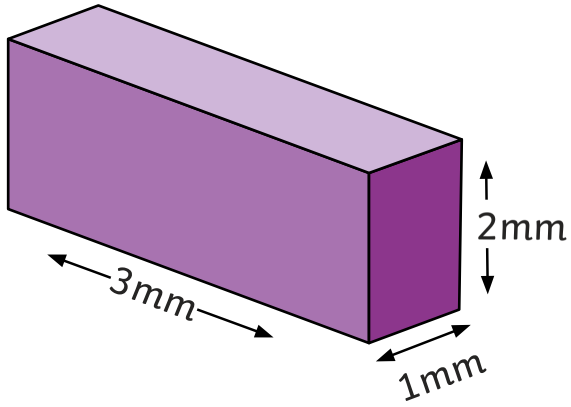
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 5

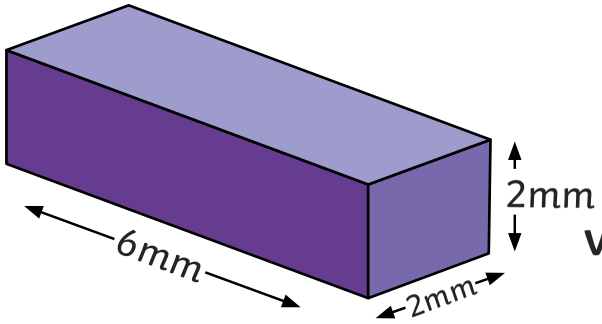
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 6

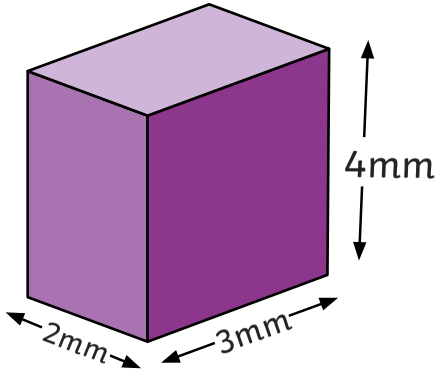
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 7

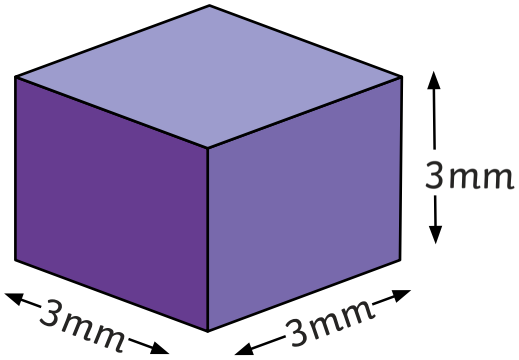
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 8

Find the volume of the cuboid using a formula.

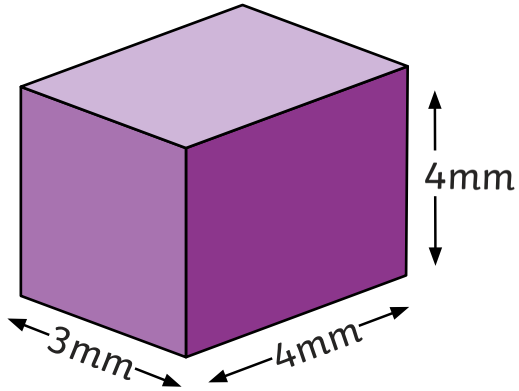


Volume:

_____

Volume of Cuboids Question 9

Find the volume of the cuboid using a formula.

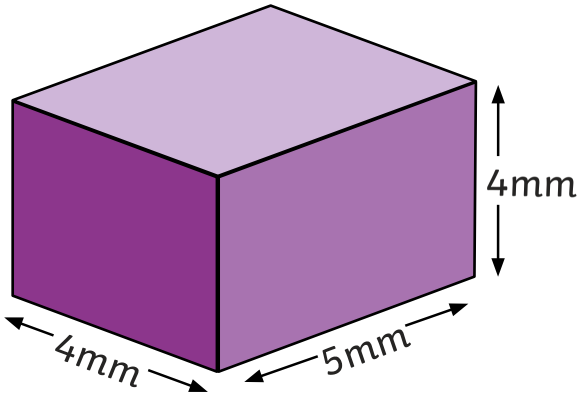


Volume:

_____

Volume of Cuboids Question 10

Find the volume of the cuboid using a formula.

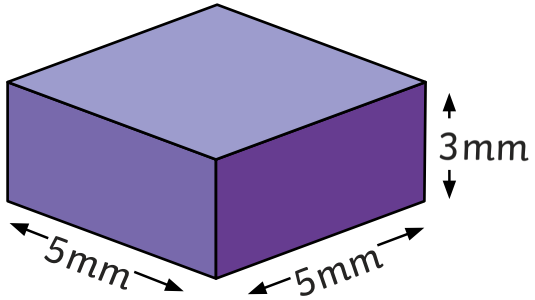


Volume:

_____

Volume of Cuboids Question 11

Find the volume of the cuboid using a formula.

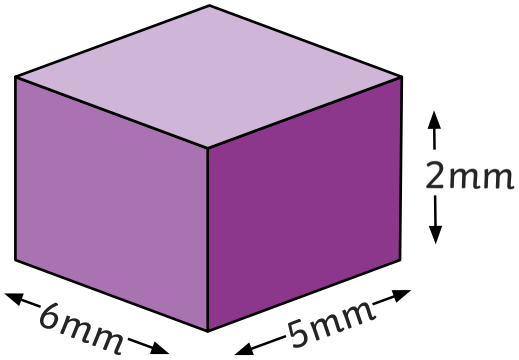


Volume:

_____

Volume of Cuboids Question 12

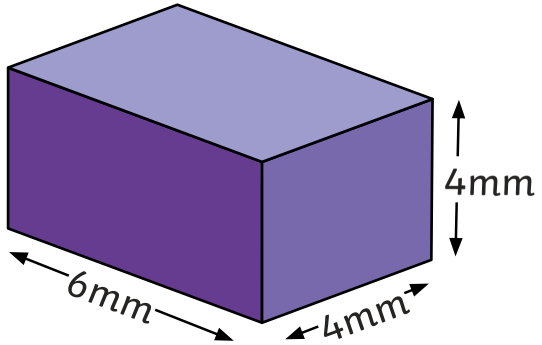
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 13

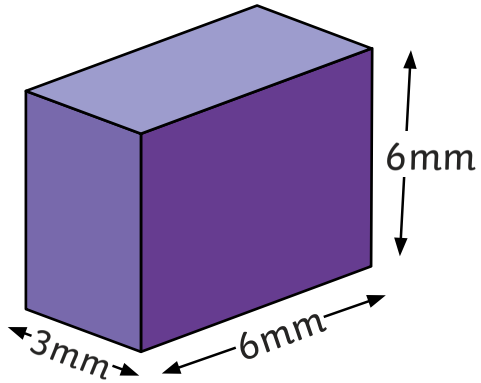
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 14

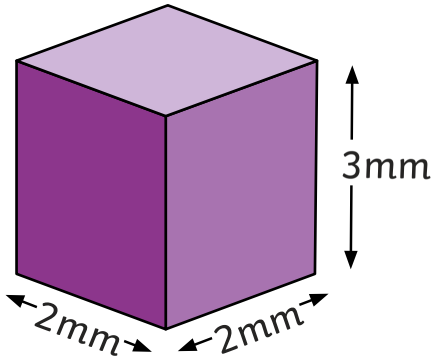
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 15

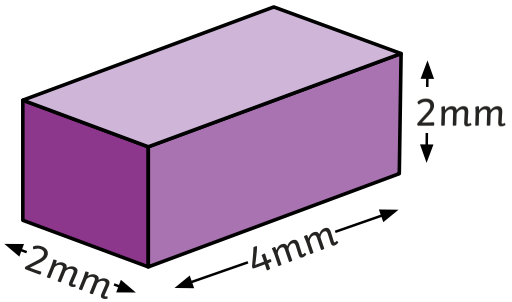
Find the volume of the cuboid using a formula.



Volume: _____

Volume of Cuboids Question 16

Find the volume of the cuboid using a formula.

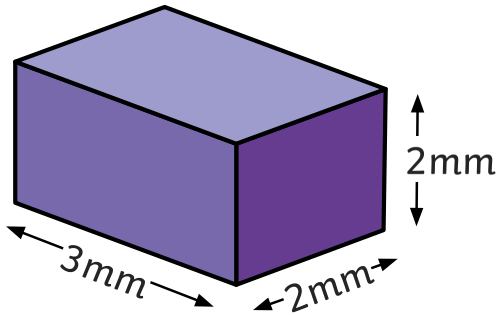


Volume:

_____

Volume of Cuboids Question 17

Find the volume of the cuboid using a formula.

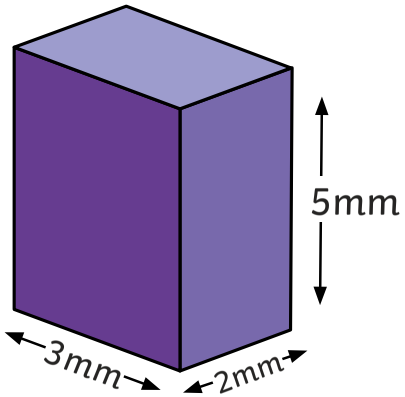


Volume:

_____

Volume of Cuboids Question 18

Find the volume of the cuboid using a formula.

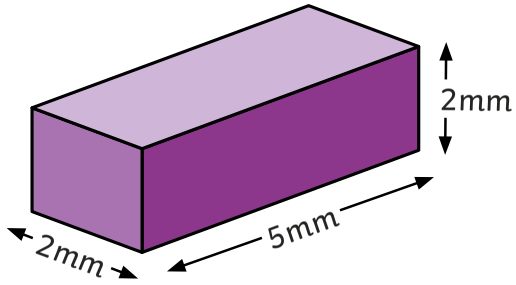


Volume:

_____

Volume of Cuboids Question 19

Find the volume of the cuboid using a formula.



Volume:

_____