

**Spring 2: Week 1.**

**Mrs Brown's Group: Thursday  
Volume.**

Calculate the missing fractions and integers.

$$\square \div 4 = \frac{7}{36}$$

$$\frac{3}{20} \div \square = \frac{3}{80}$$

$$\square \div \square = \frac{2}{5}$$

Is there more than one possibility?

Match each calculation to the correct answer.

$$\left(\frac{2}{3} + \frac{2}{9}\right) \div 4$$

$$\frac{2}{3} - \frac{1}{3} \div 3$$

$$\frac{1}{3} \times 2 - \left(1\frac{1}{9} \div 2\right)$$

$$\frac{5}{9}$$

$$\frac{2}{9}$$

$$\frac{1}{9}$$

You do ...



Do these in your book before you put the date:

Jack has one quarter of a bag of sweets and Whitney has two thirds of a bag of sweets. They combined their sweets and shared them equally between themselves and Rosie.

What fraction of the sweets does each child receive?

Rosie eats  $\frac{2}{5}$  of a packet of biscuits. She eats 10 biscuits. How many biscuits were in the original packet?

Date: Week 1.  
Title: **Volume.**



Title: Volume.	Ingredients
Volume.	<ul style="list-style-type: none"><li>▪ Formula</li><li>▪ <math>L \times W \times H = V^3</math></li><li>▪ 3 Dimensional</li><li>▪ Capacity</li></ul>

- **Key words/terminology:** Formula,  $L \times W \times H = V^3$ , 3 Dimensional

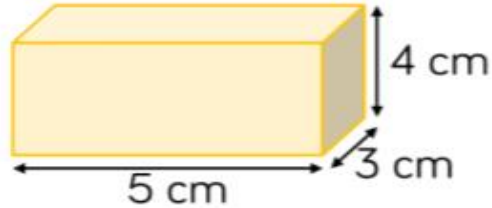
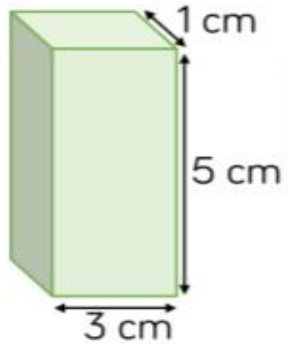
# Volume

**TARGET** To calculate the volume of cubes and cuboids.

## You do ...



- Complete the sentences for each cuboid.



The length is: \_\_\_\_\_

The width is: \_\_\_\_\_

The height is: \_\_\_\_\_

The area of the base is: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

Volume = The area of the base  $\times$  \_\_\_\_\_ = \_\_\_\_\_

- Calculate the volume of a cube with side length:

4 cm

2 m

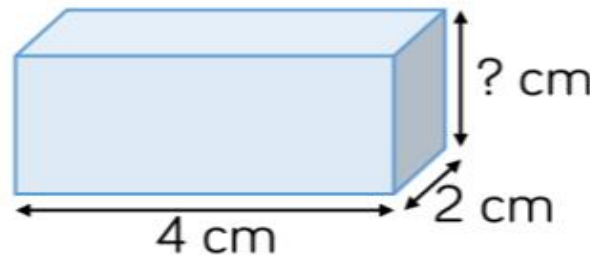
160 mm

Use appropriate units for your answers.

- The volume of the cuboid is  $32 \text{ cm}^3$ .

Calculate the height.

You might want to use multilink cubes to help you.



Using the formula find the volume of the cuboid:

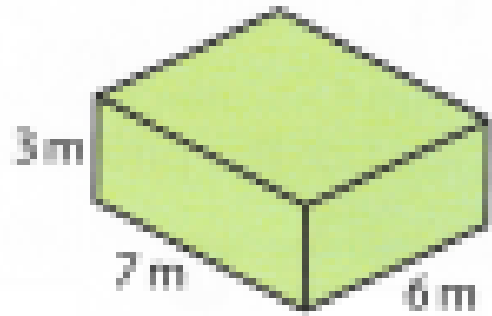
$$L \times W \times H = V_3$$

## You do ...



### Example 2

Find the volume of this room.

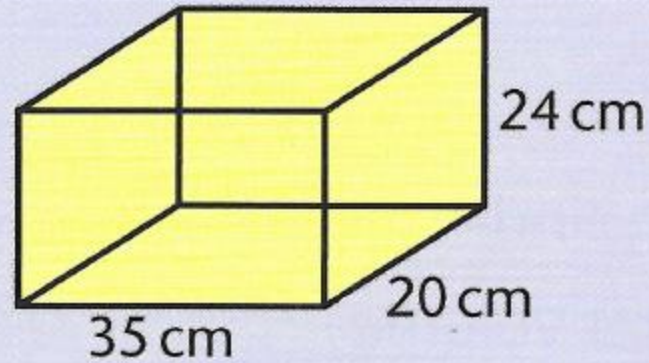


$$\text{Volume} = lbh$$

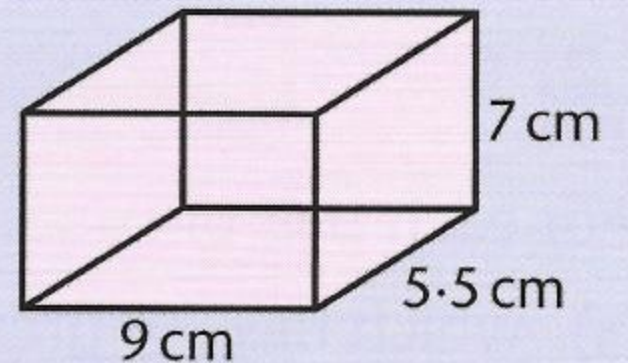
$$\begin{aligned}\text{Volume} &= (7 \times 6 \times 3) \text{ m}^3 \\ &= (42 \times 3) \text{ m}^3 \\ &= 126 \text{ m}^3\end{aligned}$$

Find the volume of each cuboid.

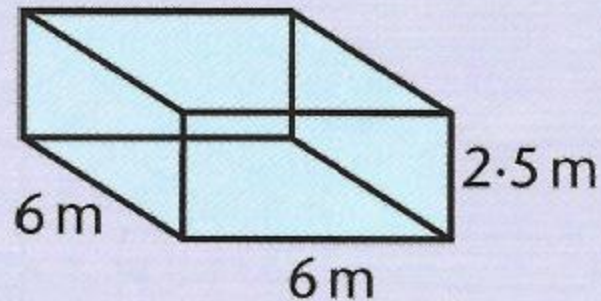
1



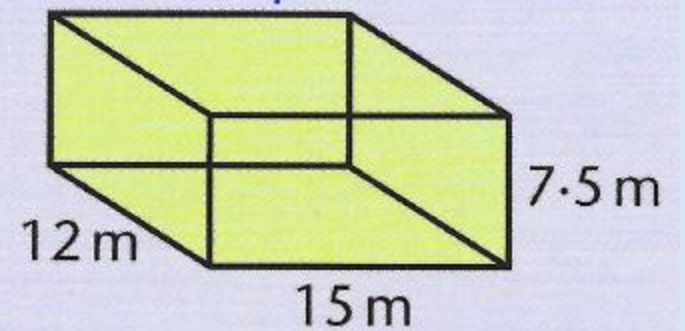
3



2



4



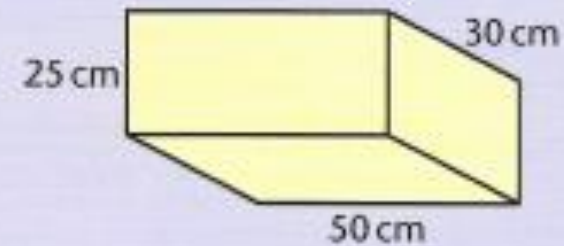


5 How many one centimetre cubes would fit into a one metre cube?

6 A cube has edges of 16 cm. What is its volume?

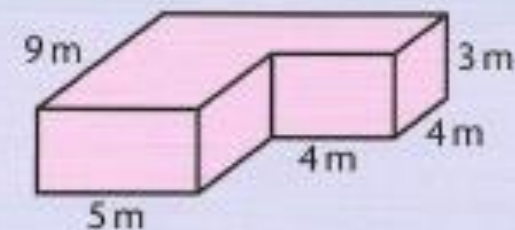
7 A cube has a volume of  $343 \text{ cm}^3$ . How long is each of its edges?

8 A game is packaged in a box with these dimensions.



- a) What is the volume of the box?
- b) How many boxes would fit into a cubic container with edges of 1.5 m?
- c) How many boxes would fit into a cuboid box 3 m long, 2 m wide and 2 m high?

9 Find the volume of the air space in this L-shaped room.





# Answers:

**C**

**1**  $16\,800\text{ cm}^3$

**2**  $90\text{ m}^3$

**3**  $346.5\text{ cm}^3$

**4**  $1350\text{ m}^3$

**5**  $1\,000\,000$

**6**  $4096\text{ cm}^3$

**7**  $7\text{ cm}$

**8 a)**  $37\,500\text{ cm}^3$

**b)**  $90$

**c)**  $320$

**9**  $183\text{ m}^3$

## You do ...



Remember to read the question carefully before you answer it!

Find the difference in volume between each pair of shapes.

1



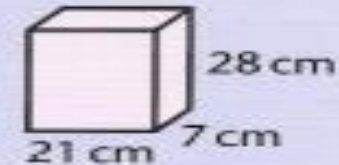
2



3

A large box of Flakies breakfast cereal has these dimensions.

A small box of Flakies is also 7 cm wide but is three quarters the height and two thirds the length of the large box. Find the volume of each box. What do you notice about the difference between their volumes?



4

How many cubic millimetres fit into one cubic centimetre?

5

How many cubic metres fit into one cubic kilometre?

**C****1**  $6 \text{ m}^3$ **2**  $2 \text{ cm}^3$ **3**  $2058 \text{ cm}^3$   $4116 \text{ cm}^3$ 

The large box is  
twice the volume of  
the small box.

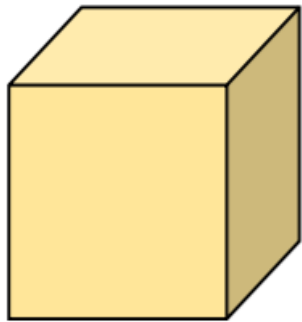
**4** 1000**5** 1 000 000 000



Rosie says,



You can't calculate the volume of the cube because you don't know the width or the height.

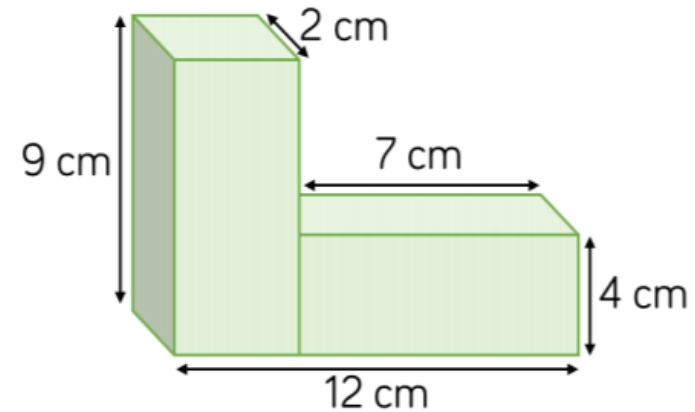


2 cm

Do you agree?

Explain why.

Calculate the volume of the shape.



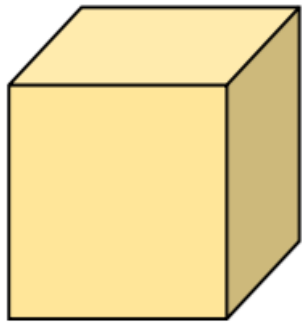
How many different ways can you make a cuboid with a volume of  $48 \text{ cm}^3$ ?



Rosie says,



You can't calculate the volume of the cube because you don't know the width or the height.



2 cm

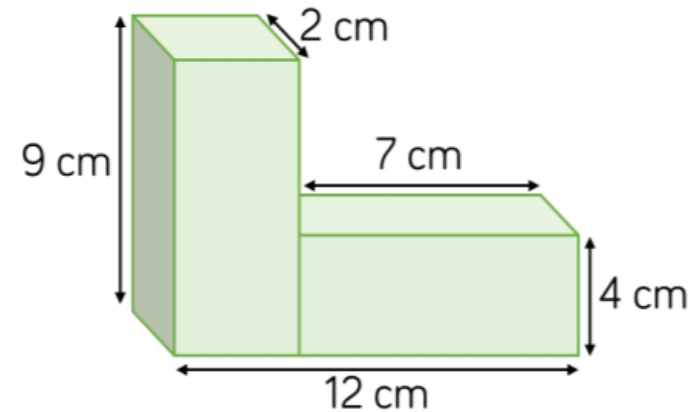
Do you agree?

Explain why.

You don't need the rest of the measurements because it's a cube and all the edges of a cube are equal. Therefore, the width would be 2 cm and the height would be 2 cm.

The volume of the cube is  $8 \text{ cm}^3$

Calculate the volume of the shape.



$146 \text{ cm}^3$

How many different ways can you make a cuboid with a volume of  $48 \text{ cm}^3$ ?

Possible answers:

$$24 \times 2 \times 1$$

$$2 \times 6 \times 4$$

$$6 \times 8 \times 1$$

**The End !!!!!**