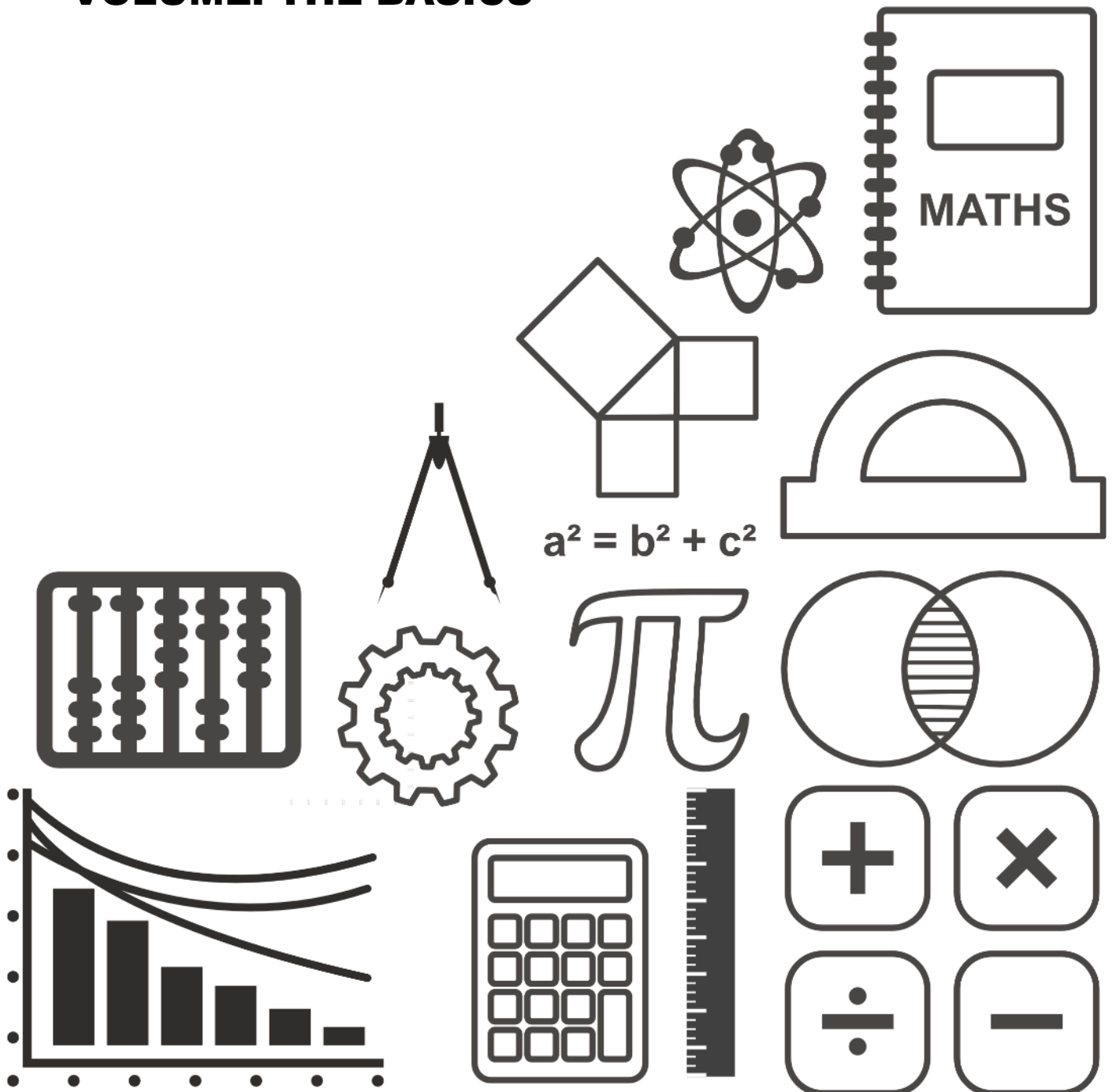
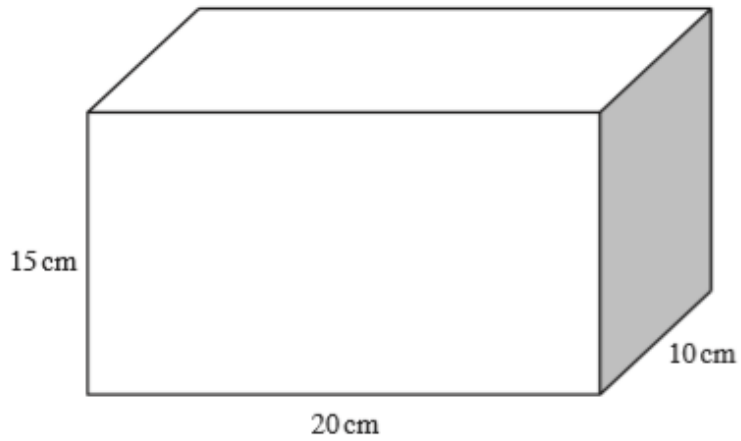


# MATHSDIY

## GCSE TOPIC BOOKLET VOLUME: THE BASICS



1. (a)



A rectangular container, full of water, measures 20 cm by 15 cm by 10 cm.  
Calculate the volume of water in the container.

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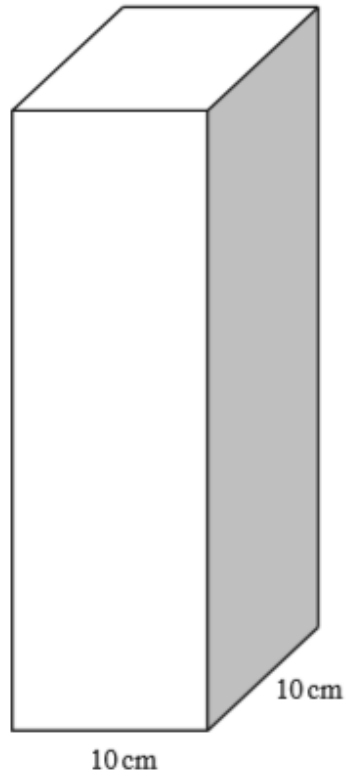
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[2]

(b) All of the water is poured into a second container with a square base of side 10 cm.



Calculate the depth of the water in this container.

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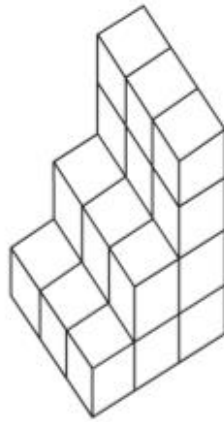
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[2]

2. The diagram shows a number of cubes of side 1 cm forming a solid shape.



*Diagram not drawn to scale*

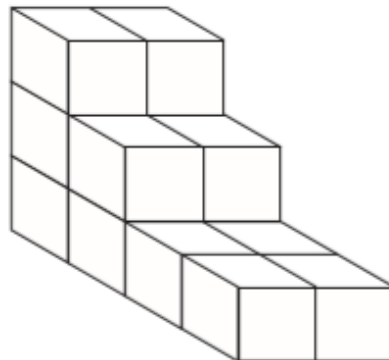
Find, by counting the cubes, the volume of the shape and state the units of your answer.

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Volume of the shape = .....

[2]

3. The diagram shows a number of cubes of side 1 cm forming a solid shape.



Find, by counting the cubes, the volume of the shape and state the units of your answer.

.....  
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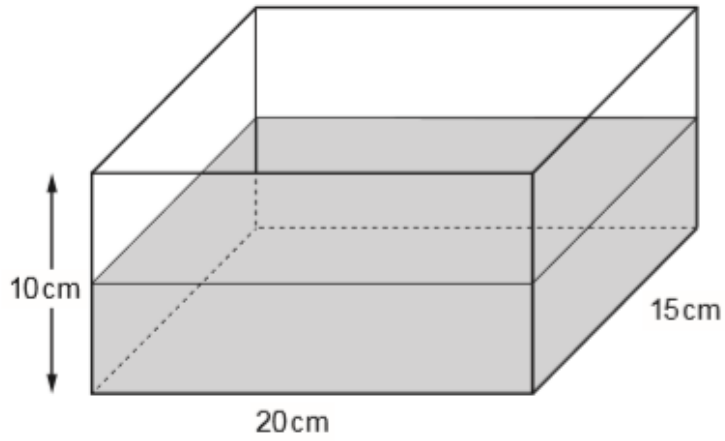
Volume of the shape = .....

[2]

4.

A rectangular tank has a length of 20 cm, a width of 15 cm and a height of 10 cm. Water is poured into the tank until it is half full. Calculate the volume of the water in **litres**.

[4]



*Diagram not drawn to scale*

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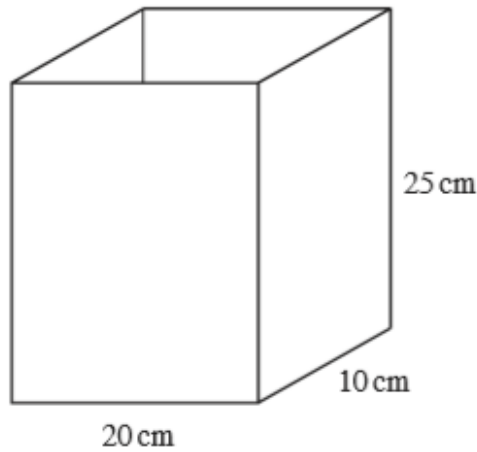
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5.



- (a) A storage container, in the shape of a cuboid, measures 20 cm by 10 cm by 25 cm. Calculate the volume of the container, clearly indicating the units of your answer.

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[3]

- (b) The container is used to store 4 litres of cooking oil. Calculate the distance of the surface of the cooking oil below the top of the container.

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[4]

6.

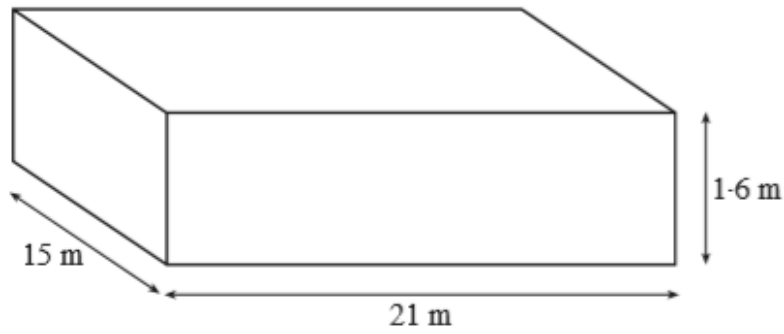


Diagram not drawn to scale.

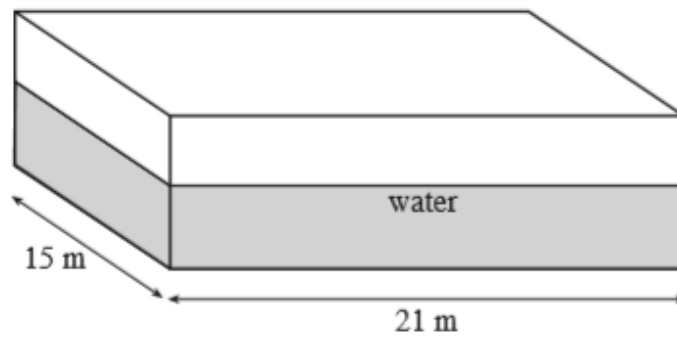
A swimming pool in the shape of a cuboid has a base measuring 21 m by 15 m and a depth of 1.6 m.

(a) Calculate the volume of the swimming pool.

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[2]

(b)

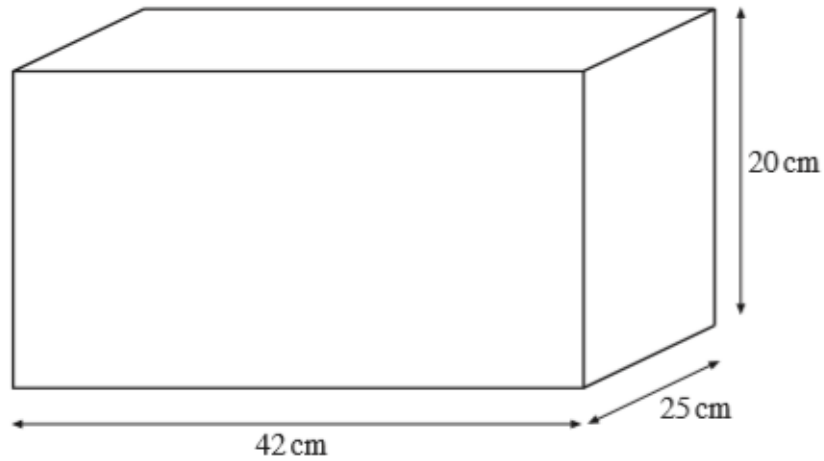


When the volume of the water in the swimming pool is  $377 \text{ m}^3$ , calculate the depth of the water, giving your answer to an appropriate degree of accuracy.

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[2]

7.



*Diagram not drawn to scale.*

A tank in the shape of a cuboid has a base measuring 42 cm by 25 cm and a height of 20 cm.

(a) Calculate the volume of the tank.

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[2]

(b) Water is poured into the tank.  
 The volume of the water is  $8400 \text{ cm}^3$ .  
 Calculate the depth of the water in the tank.

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[2]



8.

- (a) Two cubes, each with sides 3 cm, are stuck together by matching up two complete faces to form a cuboid.  
Draw a sketch of the cuboid.

[2]

- (b) Find the volume of the cuboid.

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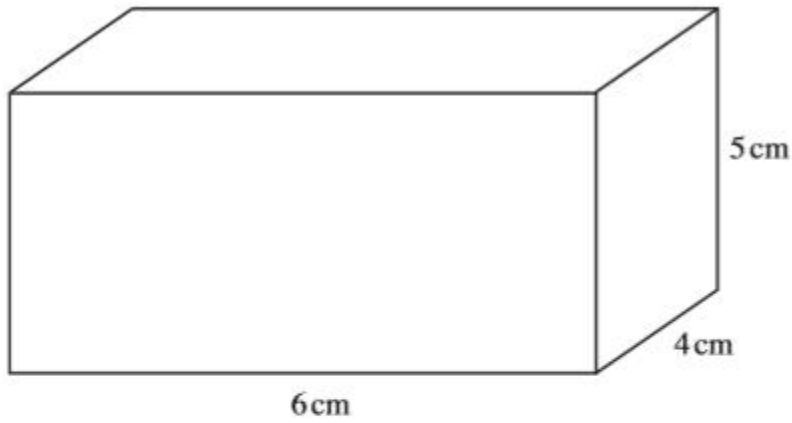
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[2]

9.



*Diagram not drawn to scale.*

Calculate the volume of the cuboid shown above, clearly stating the units of your answer.

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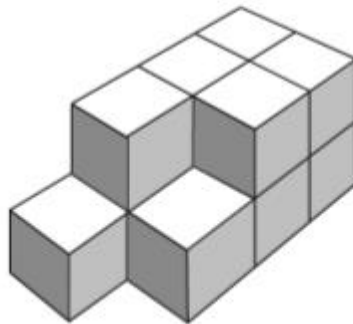
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[3]

10. The following solid shape is made up of cubes with sides of 1 cm.  
 What is the volume of the shape?  
 Give the units of your answer.  
 (There are no hidden gaps.)

[2]



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Volume = .....

11.

(a) Calculate the volume of a metal cuboid measuring 12 cm by 7 cm by 11 cm.

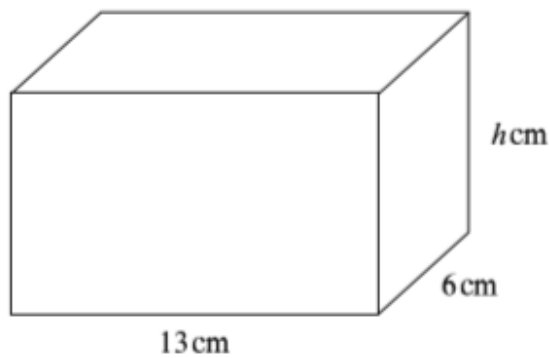
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[2]

(b) The above metal cuboid is melted down and made into a different cuboid, as shown below, with a base measuring 6 cm by 13 cm. Calculate the height  $h$  cm, of this cuboid, correct to 1 decimal place.



*Diagram not drawn to scale*

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[2]