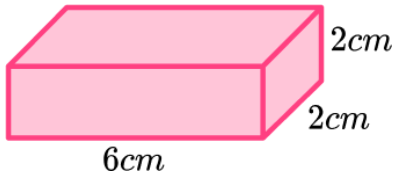
Volume of a Cuboid - Worksheet

Skill

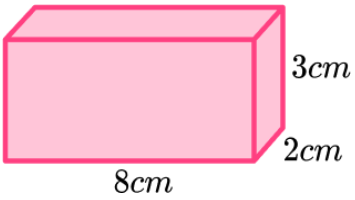
Group A - Volume

Work out the volume of each cuboid:

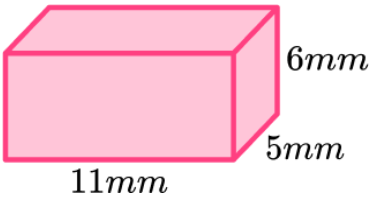
1)



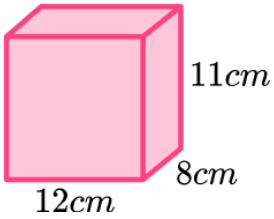
2)



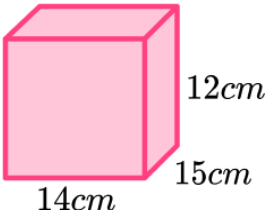
3)



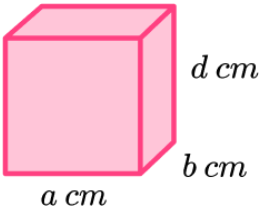
4)



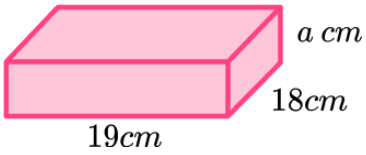
5)



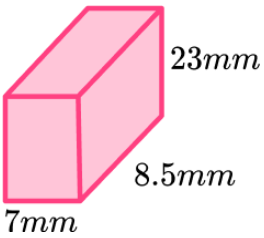
6)



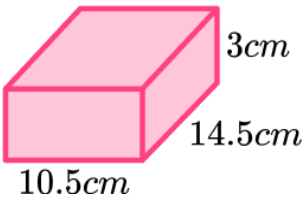
7)



8)



9)

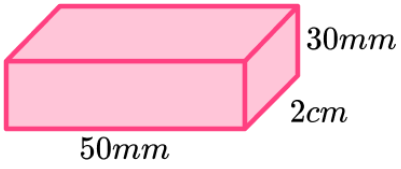


Volume of a Cuboid - Worksheet

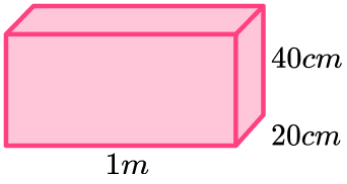
Group B - Unit Conversion

Work out the volume of each cuboid. State the units in your answer:

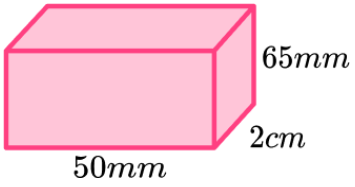
1)



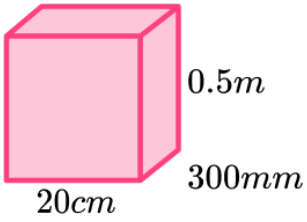
2)



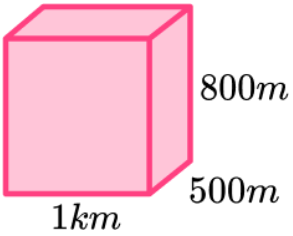
3)



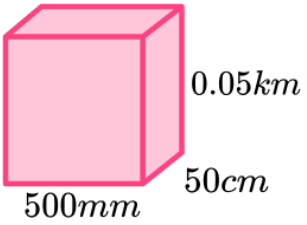
4)



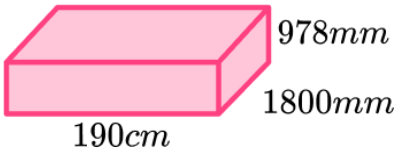
5)



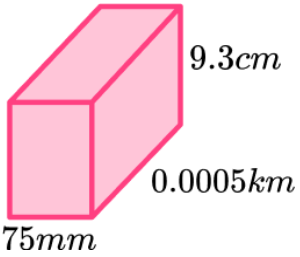
6)



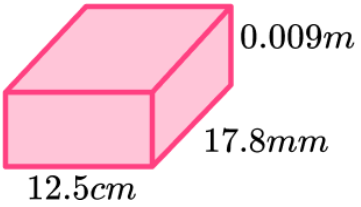
7)



8)



9)

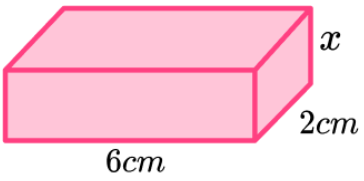


Volume of a Cuboid - Worksheet

Group C - Working backwards

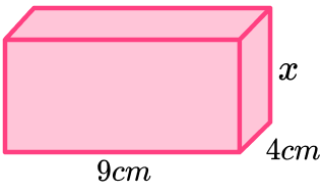
Work out the value of x in each of the cuboids below:

1)



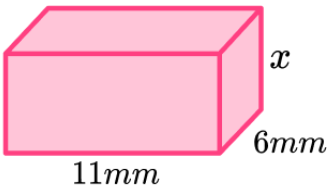
$Volume = 48cm^3$

2)



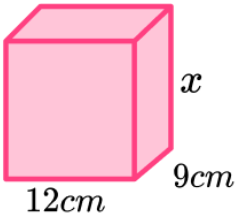
$Volume = 180cm^3$

3)



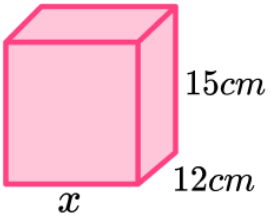
$Volume = 396cm^3$

4)



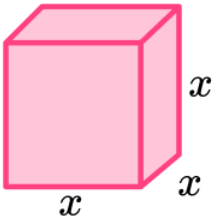
$Volume = 1188cm^3$

5)



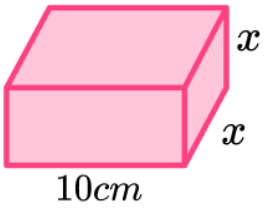
$Volume = 2520cm^3$

6)



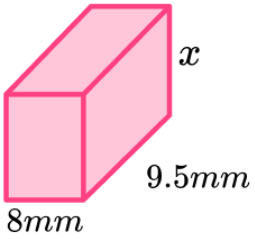
$Volume = 1000cm^3$

7)



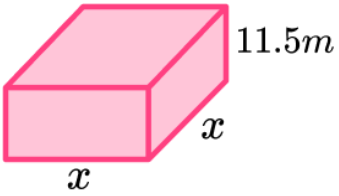
$Volume = 2500cm^3$

8)



$Volume = 1748mm^3$

9)



$Volume = 563.5m^3$

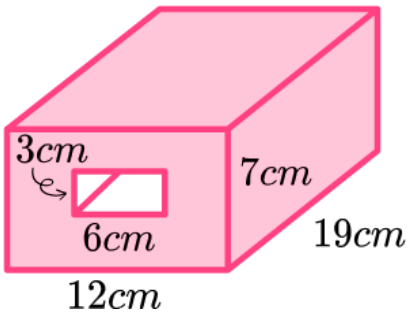
Volume of a Cuboid - Worksheet

Applied

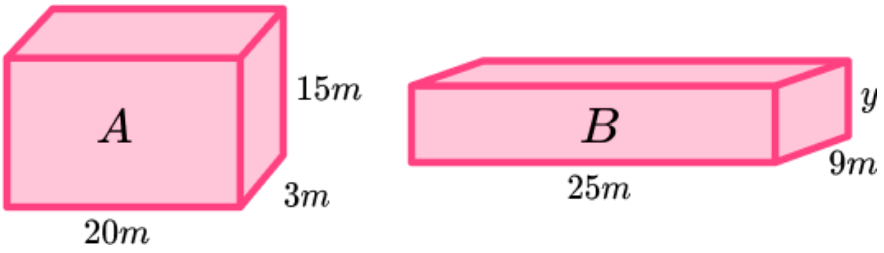
1) **(a)** A fish tank measures $2m$ long, $6m$ wide, and $480cm$ tall. Work out the volume of the fish tank.

(b) If $1cm^3 = 1ml$, work out how many litres of water is needed to fill the fish tank to the top.

2) **(a)** Determine the volume of the shape below. Make sure to show all your work.

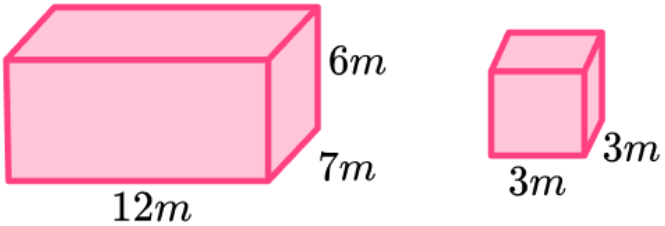


3) **(a)** Both cuboid A and B have the same volume. Work out the value of y.



(b) Convert the volume of the cuboid to mm^3.

4) **(a)** The container below is used to store storage boxes. Each box is a cube with side length of $3m$. What is the maximum number of boxes that can fit into the storage container?



Volume of a Cuboid - Exam Questions

1) **(a)** Work out the volume of a cube with side length $11cm$.

.....

(2)

(b) Convert the volume to m^3.

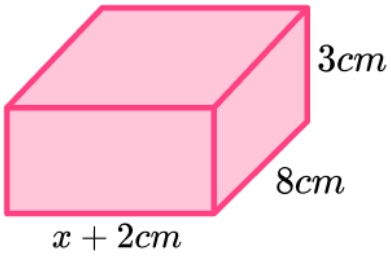
.....

(2)

(4 marks)

---

2) **(a)** The volume of the cuboid on the right is $264cm^3$.
Work out the value of x.

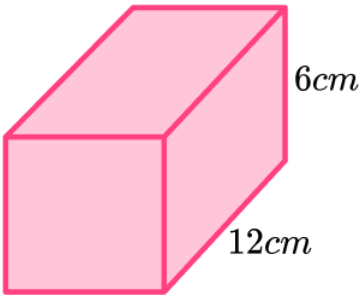


.....

(2 marks)

---

3) **(a)** The volume of this cuboid is $220cm^3$.
Work out the length of the cuboid.



.....

(2)

Volume of a Cuboid - Exam Questions

(b) Convert the volume to m^3.

.....

(2)

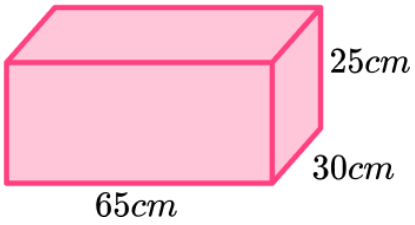
(4 marks)

---

4) **(a)** The fuel tank from Samantha's car is pictured on the right.
The tank is currently $\frac{1}{5}$ full.

Samantha wants to fill the tank completely.

How many litres does she need to fill up so that the tank is full?
$(1l = 1000cm^3)$



.....

(4)

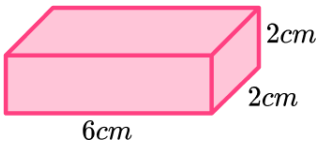
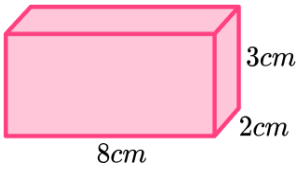
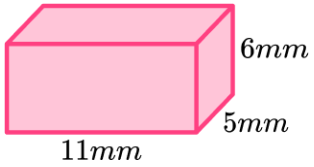
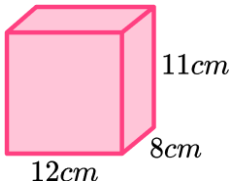
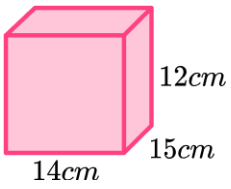
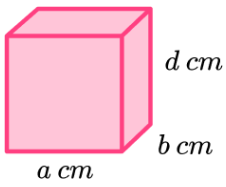
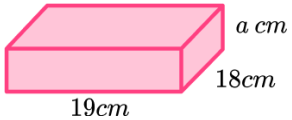
(b) Fuel costs £1.95 per litre.
How much will it cost Samantha to fill her tank?

.....

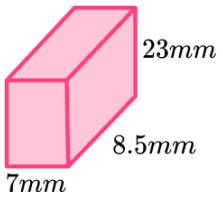
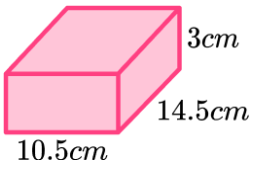
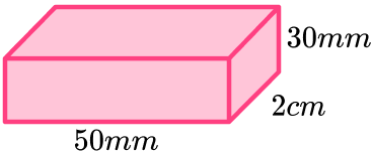
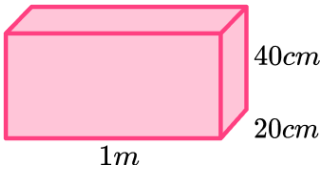
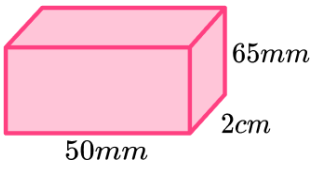
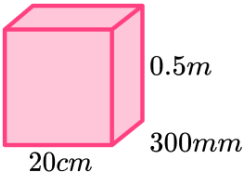
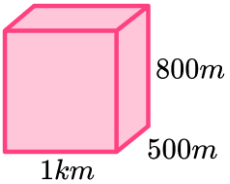
(2)

(6 marks)

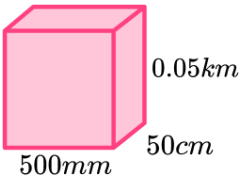
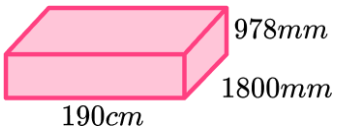
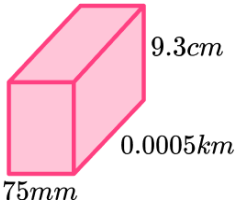
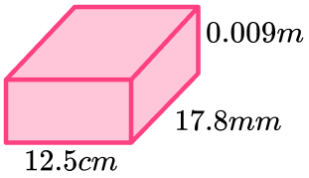
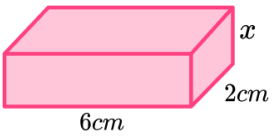
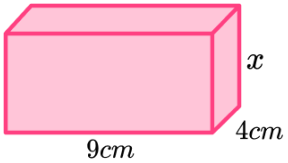
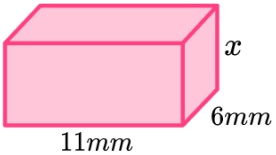
Volume of a Cuboid - Answers

	Question	Answer
	Skill Questions	
Group A	Work out the volume of each cuboid: **1)**  **2)**  **3)**  **4)**  **5)**  **6)**  **7)**  	**1)** $24cm^3$ **2)** $48cm^3$ **3)** $330cm^3$ **4)** $1056cm^3$ **5)** $2520cm^3$ **6)** $abd\ cm^3$ **7)** $342a\ cm^3$

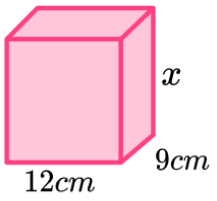
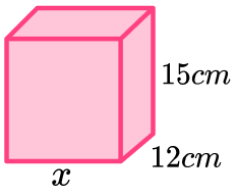
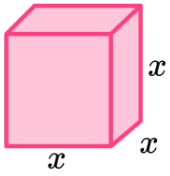
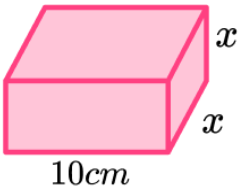
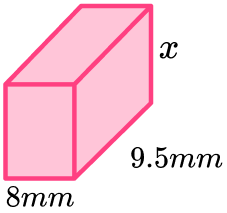
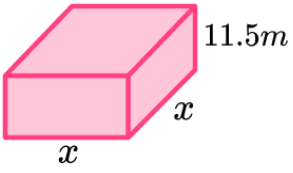
Volume of a Cuboid - Answers

Group A contd	**8)**  **9)**  	**8)** $1368.5cm^3$ **9)** $456.75cm^3$
Group B	Work out the volume of each cuboid. State the units in your answer: **1)**  **2)**  **3)**  **4)**  **5)**  	**1)** $30cm^3$ or $30000mm^3$ **2)** $80,000cm^3$ or $0.08m^3$ **3)** $65,000mm^3$ or $65cm^3$ **4)** $30,000cm^3$ or $0.03m^3$ **5)** $0.4km^3$ or $400000000m^3$

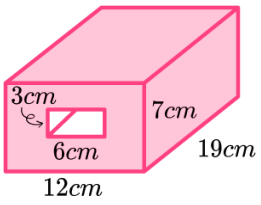
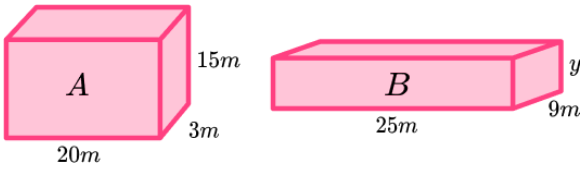
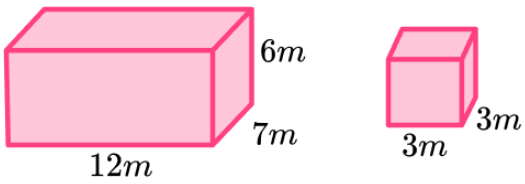
Volume of a Cuboid - Answers

Group B contd	**6)**  **7)**  **8)**  **9)**  	**6)** $12.5m^3$ **7)** $3,344,760cm^3$ **8)** $3487.5cm^3$ **9)** $20.025cm^3$
Group C	Work out the value of x in each of the cuboids below: **1)**  $Volume = 48cm^3$ **2)**  $Volume = 180cm^3$ **3)**  $Volume = 396cm^3$	**1)** $4cm$ **2)** $5cm$ **3)** $6mm$

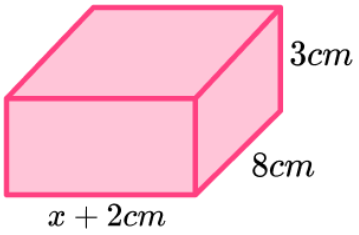
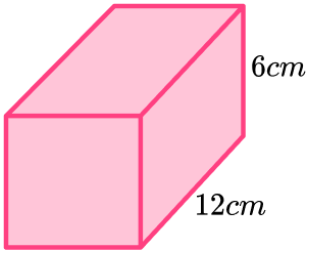
Volume of a Cuboid - Answers

Group C contd	**4)**  $Volume = 1188cm^3$ **5)**  $Volume = 2520cm^3$ **6)**  $Volume = 1000cm^3$ **7)**  $Volume = 2500cm^3$ **8)**  $Volume = 1748mm^3$ **9)**  $Volume = 563.5m^3$	**4)** $11cm$ **5)** $14cm$ **6)** $10cm$ **7)** $15.8cm$ **8)** $23mm$ **9)** $7m$

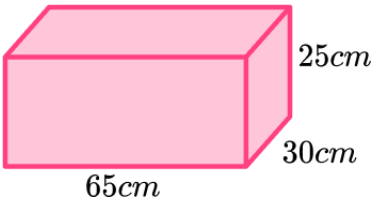
Volume of a Cuboid - Answers

	Question	Answer
	Applied Questions	
1)	**a)** A fish tank measures $2m$ long, $6m$ wide, and $480cm$ tall. Work out the volume of the fish tank. **b)** If $1cm^3 = 1ml$, work out how many litres of water is needed to fill the fish tank to the top	**a)** $57.6m^3$ or $57,600,000cm^3$ **b)** $57,600l$
2)	Determine the volume of the shape below. Make sure to show all your work. 	$1254cm^3$
3)	**a)** Both cuboid A and B have the same volume. Work out the value of y.  **b)** Convert the volume of the cuboid to mm^3.	**a)** $4m$ **b)** $900,000,000mm^3$
4)	The container below is used to store storage boxes. Each box is a cube with side length of $3m$. What is the maximum number of boxes that can fit into the storage container? 	4 (wide) 2 (high) 2 (deep) $4 \times 2 \times 2 = 16$ boxes

Volume of a Cuboid - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Work out the volume of a cube with side length $11cm$.	**(a)** $11 \times 11 \times 11$ $1331cm^3$	**(1)** **(1)**
(b)	Convert the volume to m^3.	**(b)** $1331 \div 1000000$ **oe** $0.001331m^3$	**(1)** **(1)**
2) (a)	The volume of the cuboid on the right is $264cm^3$. Work out the value of x in the diagram on the right.  	$264 \div 24 = 11$ $x + 2 = 11$ $x = 9$	**(1)** **(1)**
3) (a)	The volume of this cuboid is $220cm^3$. Work out the length of the cuboid.  	**(a)** $220 \div 12 \div 6$ $= 3.056cm$	**(1)** **(1)**
(b)	Convert the volume to m^3.	**(b)** $220 \div 1000000$ **oe** $0.00022m^3$	**(1)** **(1)**

Volume of a Cuboid - Mark Scheme

4) (a)	The fuel tank from Samantha's car is pictured on the right. The tank is currently $\frac{1}{5}$ full. Samantha wants to fill the tank completely. How many litres does she need to fill up so that the tank is full? $(1l = 1000cm^3)$  	**(a)** $V = l \times w \times h$ $V = 65 \times 30 \times 25$ $V = 48750cm^3$ $48750 \div 1000 = 48.75l$ $48.750 \times \frac{4}{5} = 39l$	 **(1)** **(1)** **(1)** **(1)**
(b)	Fuel costs £1.95 per litre How much will it cost Samantha to fill her tank?	39×1.95 £76.05	**(1)** **(1)**