

Name:

Exam Style Questions

Volume of a Cube
Volume of a Cuboid



Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

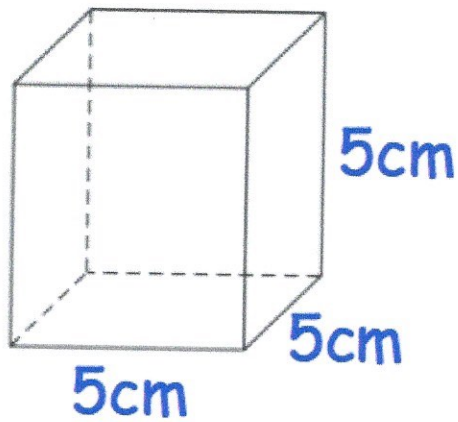
Video 355



Answers and Video Solutions



1. Shown below is a cube of side 5cm.



Work out the volume of the cube.
State the units of your answer.

$$5 \times 5 \times 5 = 125$$

$$125 \text{ cm}^3$$

.....
(2)

2. Calculate the volume of a cube with side length 6cm.
State the units of your answer.

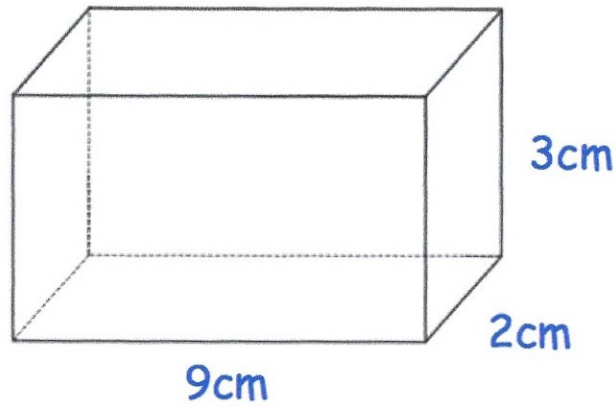


$$6 \times 6 \times 6 = 216$$

$$216 \text{ cm}^3$$

.....
(2)

3. Shown below is a solid cuboid.

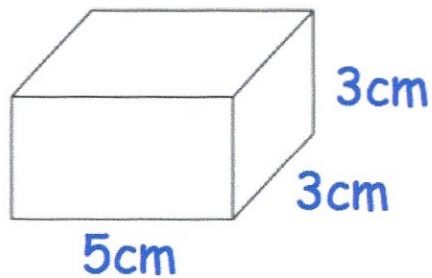


Work out the volume of the cuboid.

$$9 \times 2 \times 3 = 54$$

.....⁵⁴cm³
(2)

4. Here is a cuboid.

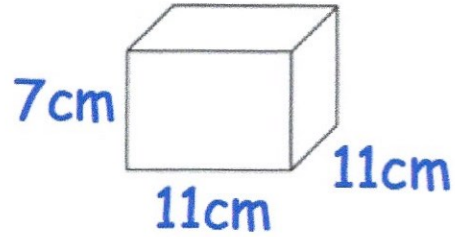


Work out the volume of the cuboid.

$$5 \times 3 \times 3$$

.....⁴⁵cm³
(2)

5.



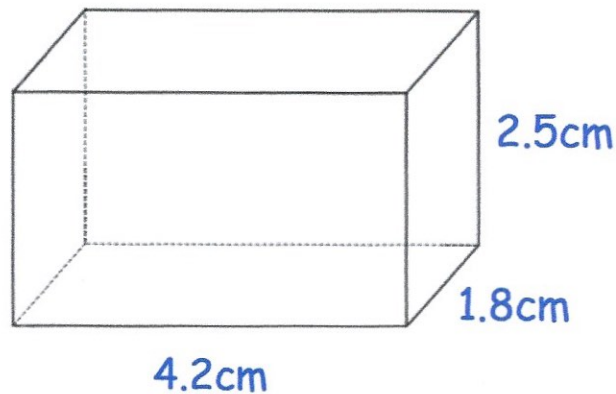
Work out the volume of this cuboid.
State the units of your answer.

$$V = 7 \times 11 \times 11$$
$$= 847$$

$$847 \text{ cm}^3$$

(2)

6.



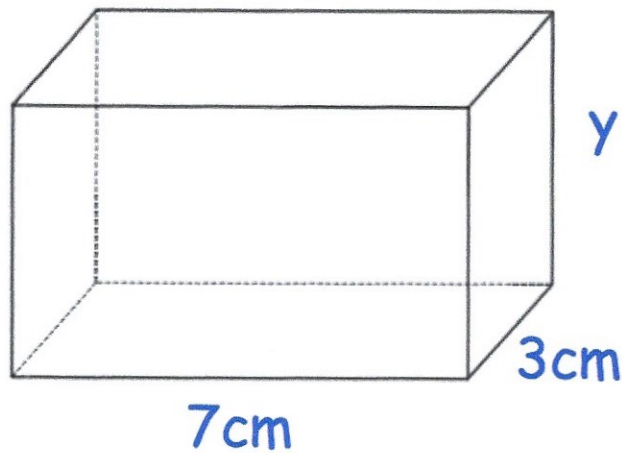
Work out the volume of this cuboid.
State the units of your answer.

$$4.2 \times 1.8 \times 2.5 = 18.9$$

$$18.9 \text{ cm}^3$$

(2)

7. A cuboid is shown below.



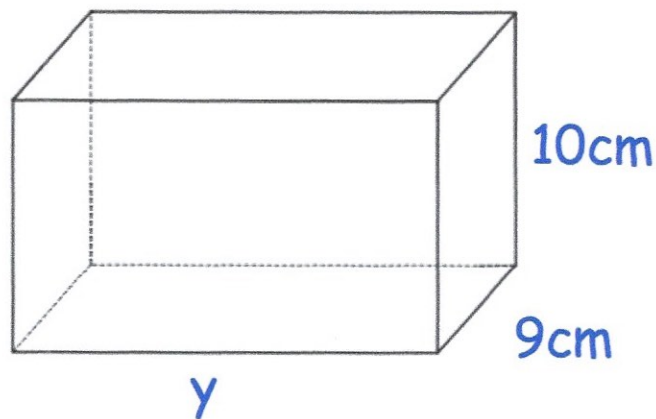
The volume of the cuboid is 105cm^3 .
Find y .

$$7 \times 3 = 21$$

$$105 \div 21 = 5$$

.....cm
5
(2)

8.



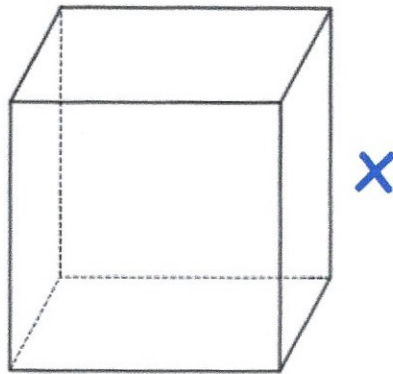
The volume of the cuboid is 2700cm^3 .
Find y .

$$10 \times 9 = 90$$

$$2700 \div 90 = 30$$

.....cm
30
(2)

9. A cube is shown below.

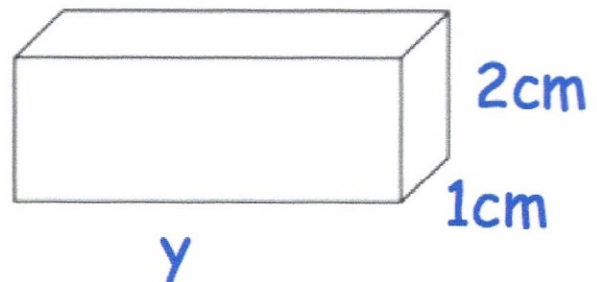
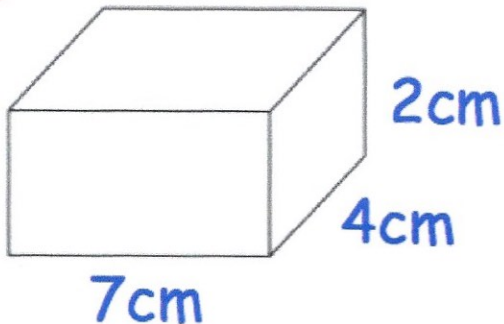


The volume of the cube is 27cm^3 .
Find x .

$$\sqrt[3]{27} = 3$$

.....³cm
(2)

10. Shown below are two cuboids.



Both cuboids have the same volume.

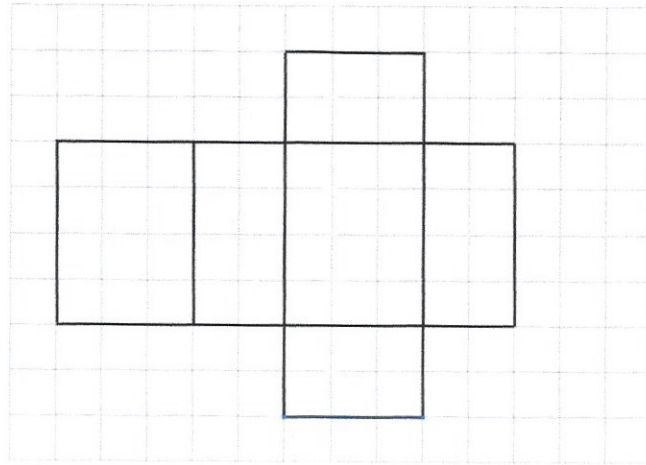
Find y .

$$7 \times 4 \times 2 = 56\text{cm}^3$$

$$\begin{aligned} 2 \times 1 &= 2 \\ 56 \div 2 &= 28 \end{aligned}$$

.....²⁸cm
(3)

11. The net of a cuboid is shown below on a centimetre square grid.

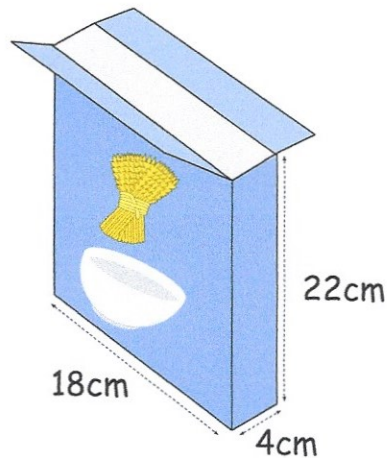


Work out the volume of the cuboid.

$$3 \times 2 \times 4 = 24$$

.....²⁴cm³
(2)

12. Shown below is a cereal box.



Calculate the volume of the box.

$$18 \times 4 \times 22 = 1584$$

.....¹⁵⁸⁴cm³
(2)

13. A cuboid fish tank measures 45cm by 40cm by 32cm



The shopkeeper says it holds 58 litres.

1 litre = 1000cm³

$$58000\text{cm}^3$$

Do you agree with the shopkeeper?

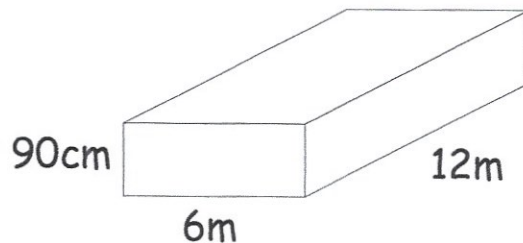
Explain your answer.

$$45 \times 40 \times 32 = 57600\text{cm}^3$$

No, the volume of the fish tank is 57600cm³,
which is less than 58 litres.

(3)

14. Shown below is a swimming pool.



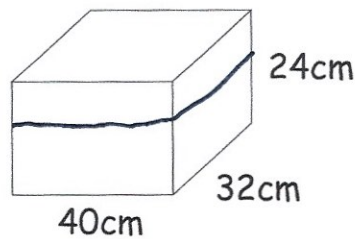
Work out the volume of the swimming pool.
State the units of your answer.

$$0.9\text{m} \times 6\text{m} \times 12\text{m} = 64.8\text{m}^3$$

$$64.8\text{m}^3$$

(2)

15. Aisha pours fruit juice into a cuboid container.



The container is $\frac{3}{4}$ full of fruit juice

Aisha uses the fruit juice to fill as many 150ml cups as possible.

How many cups can Aisha fill?

$$24 \div 4 = 6$$
$$6 \times 3 = 18$$

$$\frac{3}{4} \text{ of } 24 = 18 \text{ cm}$$

$$40 \times 32 \times 18 = 23040 \text{ cm}^3$$

$$1 \text{ litre} = 1000 \text{ cm}^3$$

$$1000 \text{ ml} = 1000 \text{ cm}^3$$

$$150 \text{ ml} = 150 \text{ cm}^3$$

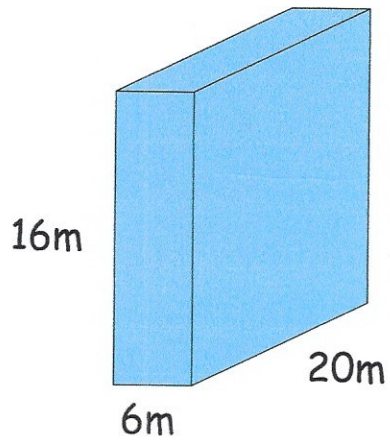
$$23040 \div 150 = 153.6 \text{ cups}$$

$$\begin{array}{r} 153 \text{ cups} \\ \hline (4) \end{array}$$

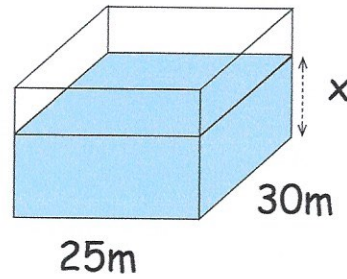
16. Water is stored in two cuboid tanks, A and B.



Cuboid A



Cuboid B



Tank A is full.
The volume of water in the two tanks is equal.

Work out the depth of the water in Tank B.

$$16 \times 6 \times 20 = 1920 \text{ m}^3$$

$$25 \times 30 = 750$$

$$1920 \div 750 = 2.56$$

2.56 m

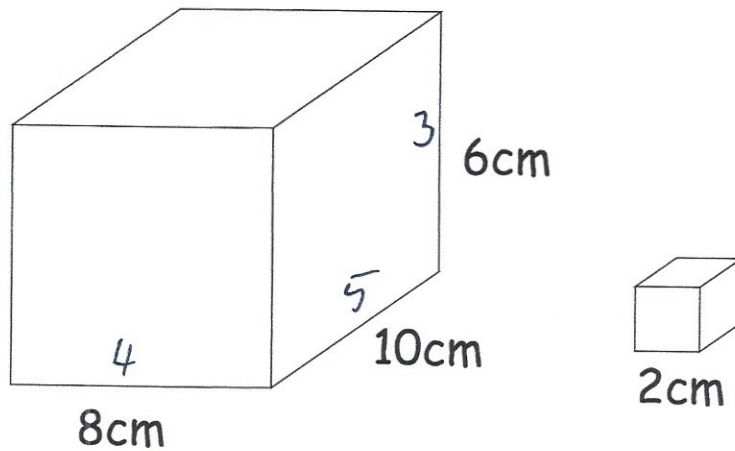
(4)

17. Bianca has a puzzle.



The puzzle has a cardboard box and many small wooden cubes.

The box is a cuboid that measures 8cm by 10cm by 6cm.
Each wooden cube has a side length of 2cm.



How many wooden cubes will fit in the cardboard box?

$$4 \times 5 \times 3 = 60$$

$$8 \div 2 = 4$$

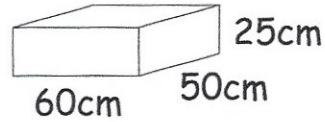
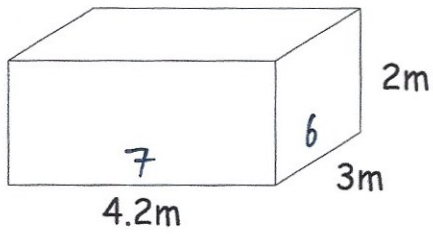
$$10 \div 2 = 5$$

$$6 \div 2 = 3$$

60

.....
(3)

18. A store room measures $4.2\text{m} \times 3\text{m} \times 2\text{m}$
A box measures $60\text{cm} \times 50\text{cm} \times 25\text{cm}$



Work out the greatest number of boxes that can be stored in the store room.

$$420\text{cm} \div 60\text{cm} = 7$$

$$300 \div 50 = 6$$

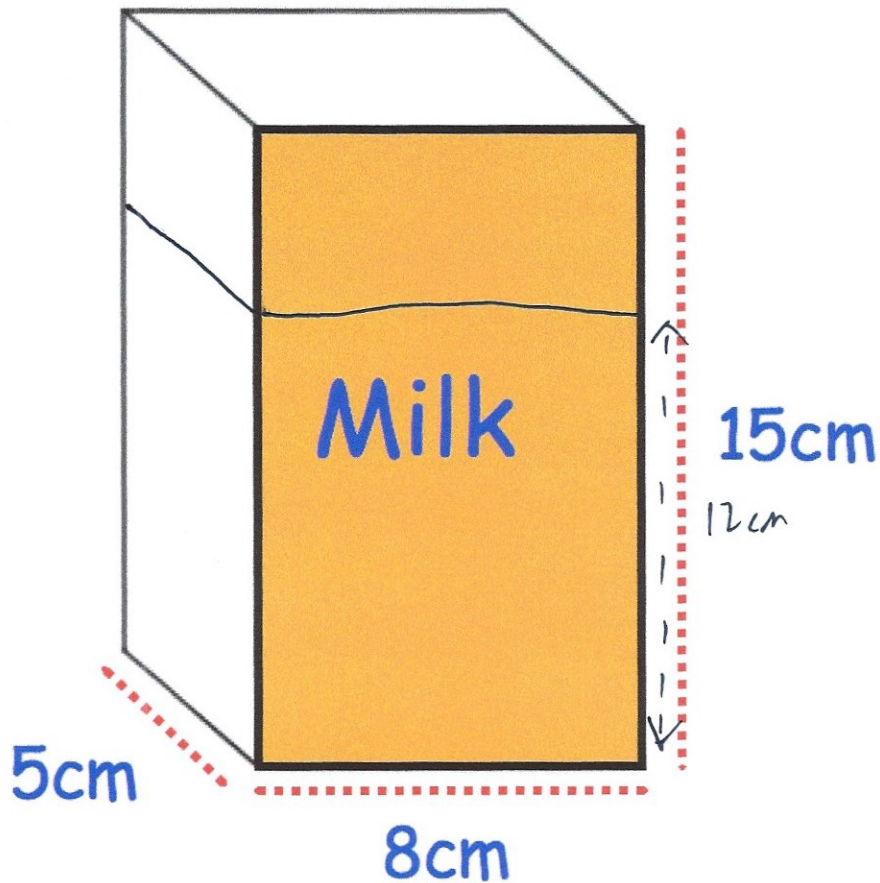
$$200 \div 25 = 8$$

$$7 \times 6 \times 8$$

336

(3)

19. A carton of milk is shown below.
The carton is in the shape of a cuboid.



The depth of the milk in the carton is 12cm.

The carton is turned so that it stands on the shaded (orange) face.

Work out the depth of the milk now.

$$5 \times 8 \times 12 = 480 \text{ cm}^3$$

$$8 \times 15 = 120$$

$$480 \div 120 = 4$$

.....cm
4
(3)

20. A cuboid has a volume of 135cm^3
The area of the base of the cuboid is 15cm^2



Work out the height of the cuboid.

15
30
45
60
75
90
105
120
135

$$135 \div 15 = 9$$

.....9.....cm
(2)

21. The surface area of a cube is 1734cm^2



Work out the volume of the cube.

$$1734 \div 6 = 289$$

$$\sqrt{289} = 17$$

$$17 \times 17 \times 17 = 4913$$

.....4913..... cm^3
(2)