

GCSE Maths: Volume of cuboids, and units of volume and capacity (Higher): worksheet

GCSE Maths - Volume, Surface Area and 3D Shapes - Higher - Lesson 19.4

Name: _____

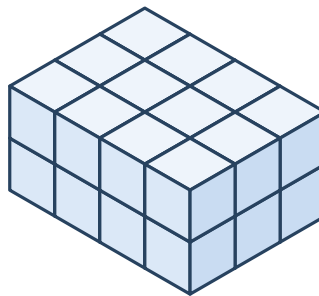
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Score: _____

15 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch19-volume-surface-area-3d/higher/volume-of-cuboids-and-units-of-volume-and-capacity/

Exercise 19D Volume of cuboids and units of volume Non-calculator

- 1 The cuboid is built from 1 cm cubes.



- (a) How many cubes are in the bottom layer?

Answer:

- (b) Work out the volume of the cuboid.

Answer:

- 2 Work out the volume of each cuboid.

- (a) length 5 cm, width 4 cm, height 3 cm

Answer:

- (b) length 10 cm, width 6 cm, height 2 cm

Answer:

- (c) length 2.5 cm, width 4 cm, height 6 cm

Answer:

- (d) length 3 m, width 2 m, height 1.5 m

Answer:

- 3 Work out the volume of each cube.

- (a) side 6 cm

Answer:

- (b) side 9 cm

Answer:

- (c) side 20 mm

Answer:

4 Work out the missing length of each cuboid.

- (a)** Volume 240 cm^3 , length 8 cm, width 5 cm. Find the height.

Answer:

- (b)** Volume 180 cm^3 , length 6 cm, height 5 cm. Find the width.

Answer:

- (c)** Volume 96 cm^3 , width 4 cm, height 3 cm. Find the length.

Answer:

5 Change each volume or capacity to the unit shown.

- (a)** 3 litres to ml

Answer:

- (b)** 4500 ml to litres

Answer:

- (c)** 2000 cm^3 to litres

Answer:

- (d)** 0.5 m^3 to litres

Answer:

- (e)** 5 m^3 to cm^3

Answer:

- (f)** 7000 mm^3 to cm^3

Answer:

6 A fish tank is a cuboid 60 cm long, 30 cm wide and 40 cm high. Work out the capacity of the tank in litres.

Answer:

7 A tank is a cuboid 80 cm long, 50 cm wide and 40 cm high. Water flows into the empty tank at 8 litres every minute. How long does it take to fill the tank?

Answer:

8 A box is a cuboid 20 cm long, 15 cm wide and 10 cm high. How many cubes of side 5 cm fit exactly inside?

Answer:

9 A swimming pool is a cuboid 10 m long, 4 m wide and 1.5 m deep.

- (a)** Work out the volume of the pool in m^3 .

Answer:

- (b)** How many litres of water does the pool hold when it is full?

Answer:

10 Box A is a cuboid 30 cm by 20 cm by 10 cm. Box B is a cuboid 25 cm by 25 cm by 10 cm. Which box has the larger volume, and by how much?

Answer:

11 Tom works out the volume of a cuboid that is 6 cm by 4 cm by 3 cm. He writes $6 + 4 + 3 = 13 \text{ cm}^3$. Explain Tom's mistake and work out the correct volume.

Answer:

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- 12** A cuboid has volume 36 cm^3 . All its edges are whole numbers of centimetres. Write down three different sets of length, width and height that are possible.

Answer:

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- 13** Jo says, " 1 m^3 is 100 cm^3 because 1 m is 100 cm ." Explain why she is wrong.

Answer:

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- 14** A cuboid has a square base and a height that is 3 times the length of the side of the base. Its volume is 192 cm^3 . Work out the dimensions of the cuboid.

Answer:

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- 15** A cuboid has volume 24 cm^3 . Every edge is made 3 times as long. Work out the volume of the new cuboid.

Answer:

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