

GCSE Maths: Area and volume units (Foundation): answers

GCSE Maths - Units and Compound Measures - Foundation - Lesson 16.2

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch16-units-compound-measures/foundation/area-and-volume-units/

Exercise 16C Converting area and volume units Non-calculator

- 1 How many square millimetres (mm^2) are there in 1 cm^2 ?

Answer: 100 mm^2

- 2 Change each area to the unit shown.

- (a) 2 m^2 to cm^2

Answer: $20,000 \text{ cm}^2$

- (b) 0.5 m^2 to cm^2

Answer: 5000 cm^2

- (c) 3 cm^2 to mm^2

Answer: 300 mm^2

- (d) 1.2 cm^2 to mm^2

Answer: 120 mm^2

- 3 Change each area to the unit shown.

- (a) $50,000 \text{ cm}^2$ to m^2

Answer: 5 m^2

- (b) $25,000 \text{ cm}^2$ to m^2

Answer: 2.5 m^2

- (c) 700 mm^2 to cm^2

Answer: 7 cm^2

- (d) 450 mm^2 to cm^2

Answer: 4.5 cm^2

- 4 Change each area to the unit shown.

- (a) 2 km^2 to m^2

Answer: $2,000,000 \text{ m}^2$

- (b) $3,500,000 \text{ m}^2$ to km^2

Answer: 3.5 km^2

- (c) 0.04 m^2 to cm^2

Answer: 400 cm^2

(d) $62,000 \text{ cm}^2$ to m^2

Answer: 6.2 m^2

5 Change each volume to the unit shown.

(a) 3 m^3 to cm^3

Answer: $3,000,000 \text{ cm}^3$

(b) 2.5 cm^3 to mm^3

Answer: 2500 mm^3

(c) $4,500,000 \text{ cm}^3$ to m^3

Answer: 4.5 m^3

(d) 6000 mm^3 to cm^3

Answer: 6 cm^3

6 Change each amount to the unit shown.

(a) 4500 cm^3 to litres

Answer: 4.5 litres

(b) 3 litres to cm^3

Answer: 3000 cm^3

(c) 2 m^3 to litres

Answer: 2000 litres

(d) 750 litres to m^3

Answer: 0.75 m^3

7 A cuboid has edges 2 cm, 3 cm and 4 cm. Work out its volume in mm^3 .

Answer: $24\,000 \text{ mm}^3$

8 A carpet measures 4 m by 2.5 m. Work out its area in cm^2 .

Answer: $100\,000 \text{ cm}^2$

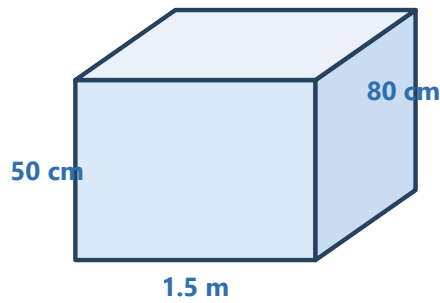
9 A floor is 3 m by 2 m. It is covered with square tiles of side 20 cm. How many tiles are needed?

Answer: 150

10 Kayla says " $1 \text{ m} = 100 \text{ cm}$, so $1 \text{ m}^2 = 100 \text{ cm}^2$ ". Explain why she is wrong and give the correct value.

Answer: $1 \text{ m}^2 = 10\,000 \text{ cm}^2$ because $100 \times 100 = 10\,000$

11 A tank is a cuboid 1.5 m long, 80 cm wide and 50 cm high. Work out its capacity in litres.



Answer: 600 litres

- 12** A fish tank is 60 cm long, 30 cm wide and 40 cm high. It is filled to a depth of 30 cm. How many litres of water are in the tank?

Answer: 54 litres

- 13** Which is larger, 0.6 m^2 or 5500 cm^2 ? Show your working.

Answer: 0.6 m^2 ($= 6000 \text{ cm}^2$) is larger

- 14** A swimming pool is a cuboid 25 m long, 10 m wide and 1.6 m deep. (a) Work out the volume in litres when it is full. (b) A pump fills it at 500 litres per minute. How long does it take? Give your answer in hours and minutes.

(a) Volume in litres

Answer: 400,000 litres

(b) Time to fill

Answer: 13 hours 20 minutes