Name:

Exam Style Questions

Converting Units for Area
Converting Units for Volume

Corbettmaths

Equipment needed: Ruler, Pencil, Calculator and Pen

Guidance

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

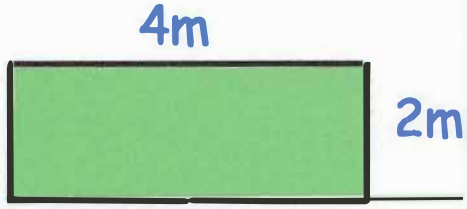
Video Tutorial

www.corbettmaths.com/contents

Videos 350, 351

Answers and Video Solutions

1. Shown below is a rectangle.



(a) Find the area of the rectangle in m^2

$4 \times 2 = 8$

8 ..... m^2

(1)

(b) Find the area of the rectangle in cm^2

$400 \times 200 = 80000$

80000 ..... cm^2

(1)

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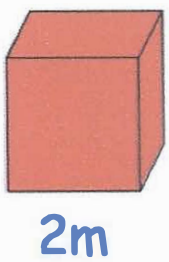
2. Shown below is a cube.



(a) Find the volume of the cube in m^3

$2 \times 2 \times 2$

8 ..... m^3

(1)

(b) Find the volume of the cube in cm^3

$200 \times 200 \times 200$

8000000 ..... cm^3

(1)

3. Convert 3 m^2 into cm^2

$1m^2 = 10000cm^2$

$3 \times 10000 = 30000$

30000 ..... cm^2

(1)

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4. Convert 72.5 m^2 into cm^2

72.5×10000

725000 ..... cm^2

(1)

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5. Convert 20000 cm^2 into m^2

$20000 \div 10000$

2 ..... m^2

(1)

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6. Convert 23000000 cm^2 into m^2

$23000000 \div 10000$

2300 ..... m^2

(1)

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7. Write 8 cm^2 in mm^2

$1cm = 10mm$

$1cm^2 = 100mm^2$

8×100

800 ..... mm^2

(1)

$1\ cm^2 = 100\ mm^2$

8. Write 850 mm^2 in cm^2

$850 \div 100 = 8.5$

8.5 ..... cm^2

(1)

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9. Write 2 km^2 in m^2

$1\ km = 1000\ m$

$1\ km^2 = 1000000\ m^2$

$2 \times 1000000 = 2000000$

2000000 ..... m^2

(1)

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10. Convert 0.2 m^2 into cm^2

$1\ m^2 = 10000\ cm^2$

$0.2 \times 10000 = 2000$

2000 ..... cm^2

(1)

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11. Convert 552 cm^2 into m^2

$552 \div 10000 = 0.0552$

0.0552 ..... m^2

(1)

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12. Convert 8 m^3 into cm^3

$1\ m = 100\ cm$

$1\ m^3 = 1000000\ cm^3$

8×1000000

8000000 ..... cm^3

(1)

$1m^3 = 1000000cm^3$

13. Convert 0.7 m^3 into cm^3

0.7×1000000

700000 ..... cm^3

(1)

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14. Convert 25 cm^3 into mm^3

$1cm = 10mm$

$1cm^3 = 1000mm^3$

25×1000

25000 ..... mm^3

(1)

---

15. Convert 160 mm^3 into cm^3

$160 \div 1000$

0.16 ..... mm^3

(1)

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16. Convert 4000000 cm^3 into m^3

$1m = 100cm$

$1m^3 = 1000000cm^3$

$4000000 \div 1000000 = 4$

4 ..... m^3

(1)

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17. Convert 300000 cm^3 into m^3

$300000 \div 1000000 = 0.3$

0.3 ..... m^3

(1)

18. Convert 5000 cm^3 into m^3

5000 ÷ 1000000 =

0.005 ..... m^3

(1)

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19. Convert 10.2 m^3 into cm^3

10.2 × 1000000

10200000 ..... cm^3

(1)

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20. Convert 9950000000 cm^3 into m^3

9950000000 ÷ 1000000

9950 ..... m^3

(1)

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21. Circle the area that is equivalent to 71 cm^2

0.071 m^2 ✗

7100 mm^2

710000 m^2 ✗

0.71 mm^2 ✗

$1 cm^2 = 100 mm^2$

$1 m^2 = 10000 cm^2$

$71 cm^2$

$7100 mm^2$

$0.0071 m^2$

(1)

1 Litre = 1000ml
1 Litre = 1000cm³

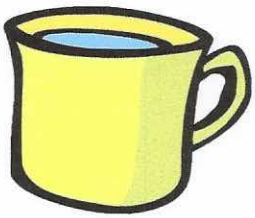
22. Shown below are three containers of water.
The amounts of water in each is shown.

A

350cm³

350ml

B



400ml

C

0.08 Litres

80ml

List the containers in order, from least water to greatest water.

C, A, B

.....

(2)

23. Convert 3 litres to cm^3

3000 cm^3

(1)

24. Convert 1.4 litres to cm^3

1400 cm^3

(1)

25. Convert 0.4 litres to cm^3

400 cm^3

(1)

26. Convert 7200 millitres to cm^3

7200 ..... cm^3

(1)

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27. Convert 4500 cm^3 to litres

4.5 ..... litres

(1)

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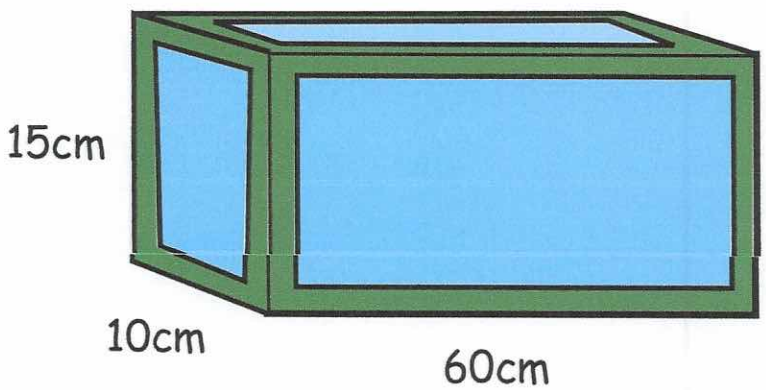
28. Shown below is a fish tank.
The fish tank is a cuboid.



Calculate how many litres of water are needed to fill an empty fish tank.

$15 \times 10 \times 60 = 9000 cm^3$

9 ..... litres

(3)

29. Mrs Jones is tiling her kitchen floor.
Each kitchen tile measures 20cm by 20cm.
The floor measures 3m wide and 5m long.

400cm²
15m²

assumes tiles "fit" perfectly.

The tiles are sold in boxes of 10.
Each box costs £6

Work out the total cost of the tiles needed for the kitchen floor.

my approach.

method 1:

300 ÷ 20 = 15 (width)
500 ÷ 20 = 25 (length)

15 x 25 = 375 tiles

375 ÷ 10 = 37.5 boxes

38 x 6 = £228

method 2:

15 m² = 150000 cm²

150000 ÷ 400 = 375 tiles

375 ÷ 10 = 37.5 boxes

38 x 6 = £228

£ 228

(5)

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30. The area of a circle is $0.3\ m^2$ = 3000cm²

Work out the length of the diameter of the circle.
Give your answer in centimetres and to one decimal place.

Approach 1

$A = \pi r^2$

$0.3 = \pi r^2$

$0.095492... = r^2$

$r = 0.30901...$

$0.30901... \times 2 = 0.618...$

Approach 2.

$3000 = \pi r^2$

$r^2 = 954.92...$ cm²

$r = 30.9...$ cm

d = 61.8cm

61.8 cm

(3)