7.9 Perimeter, Area and Volume: 1-hour Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

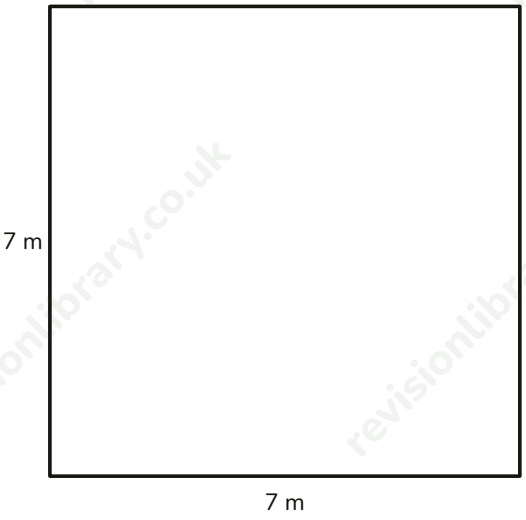
Answer ALL questions. Show all your working.

1 A square has sides of length 7 m.

What is its perimeter?

Answer: ___ m

Diagram NOT accurately drawn



(1)

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2 A rectangle measures 14 mm by 9 mm. A smaller rectangle 9 mm by 5 mm is cut out of one corner.

What is the area of the shape that is left, in square millimetres?

Answer: ___

(3)

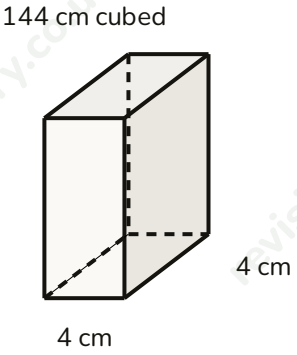
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3 A cuboid has a volume of 144 cm cubed. Its length is 4 cm and its width is 4 cm.

What is its height?

Answer: ___ cm

Diagram NOT accurately drawn



(2)

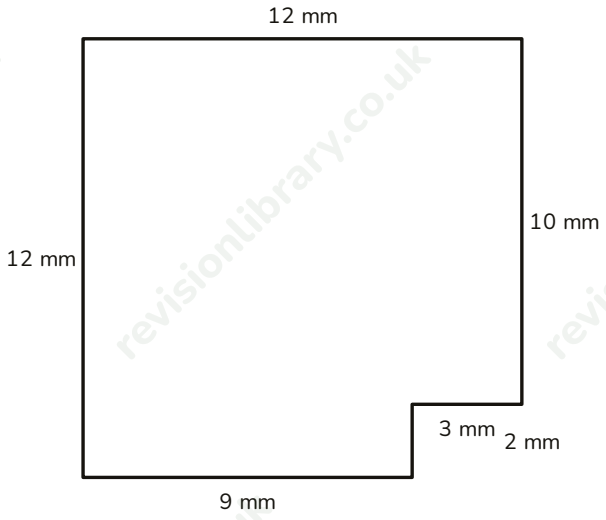
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4 An L-shaped floor has these sides in order around the shape: 12 mm, 10 mm, 3 mm, 2 mm, 9 mm, 12 mm.

What is the perimeter of the floor?

Answer: ___ mm

Diagram NOT accurately drawn



(1)

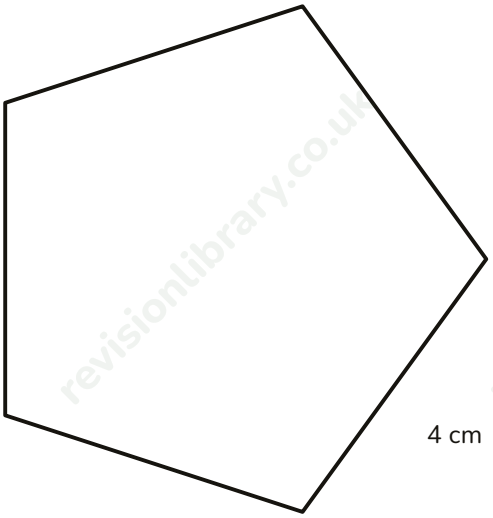
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5 A regular pentagon has sides of length 4 cm.

What is its perimeter?

Answer: ___ cm

Diagram NOT accurately drawn



(2)

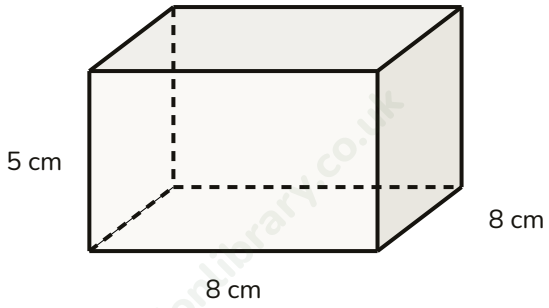
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6 A box is 8 cm long, 8 cm wide and 5 cm high. It is filled with 1 cm cubes.

How many cubes are needed to fill the box?

Answer: ___

Diagram NOT accurately drawn



(2)

---

7 A rectangle has an area of 308 square centimetres. Its length is 22 cm.

What is its width?

Answer: ___ cm

Diagram NOT accurately drawn



Area = 308 cm²

(2)

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8 A jug holds 3.5 litres of juice. Nia pours it into glasses that each hold 250 ml.

How many glasses can be filled?

Answer: ___

(2)

---

9 Here is a rectangle 12 cm by 5 cm. A 4 cm by 2 cm rectangle is cut out from one corner. Work out the area of the remaining shape.

(2)

---

10 A rectangle has length 9 m and area 63 m². A smaller similar rectangle has length 3 m. What is the area of the smaller rectangle?

Diagram NOT accurately drawn



9 m

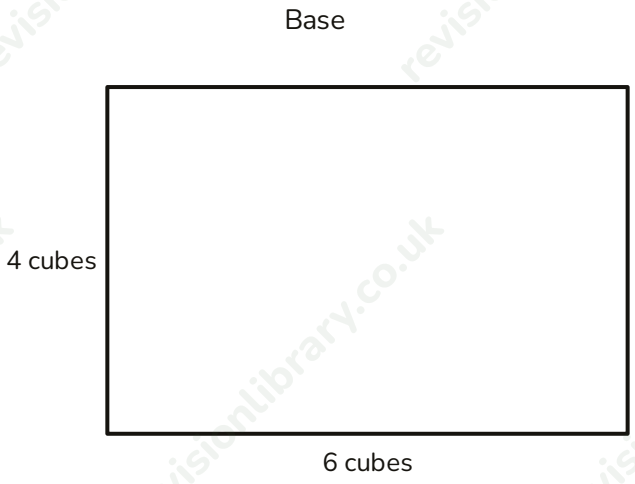
Area = 63 m²

(2)

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11 Priya builds a cuboid from 1 cm cubes. The base of her cuboid is 6 cubes long and 4 cubes wide. She uses 72 cubes altogether. How many layers of cubes are in her cuboid?

Diagram NOT accurately drawn



(1)

---

12 A rectangular field is 0.4 km long and 250 m wide. Chloe runs once all the way round the edge of the field. How far does she run? Give your answer in metres.

(2)

---

13 A rectangular patio is 3 m long and 2.4 m wide. It is covered completely with square paving slabs, with no gaps and no overlaps. Each slab has sides of 60 cm. How many slabs are needed?

(2)

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14 Mr Ahmed is going to paint a rectangular wall that is 7 m long and 3 m high. One tin of paint covers 8 square metres. Tins of paint can only be bought whole. How many tins does he need to buy to paint the whole wall once?

(3)

---

15 A farmer has 24 m of fencing. She uses all of it to make a pen in the shape of a rectangle or a square. Each side of the pen must be a whole number of metres long. What is the largest area the pen can have? Show your working.

(3)

---

16 A rectangle has a perimeter of 74 mm. Its length is 26 mm.

What is its width?

Answer: ___ mm

Diagram NOT accurately drawn



26 mm

Perimeter = 74 mm

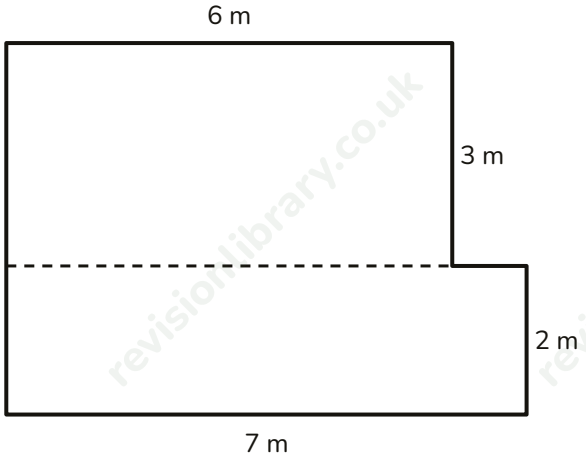
(2)

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17 An L-shape is made from two rectangles joined together. The first rectangle is 6 m by 3 m. The second is 7 m by 2 m.

What is the total area of the L-shape in square metres?

Answer: ___



(2)

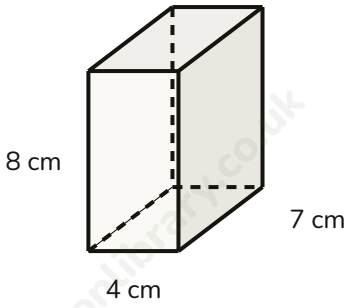
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18 A cuboid measures 4 cm by 7 cm by 8 cm.

What is its volume in cubic centimetres?

Answer: ___ cm cubed

Diagram NOT accurately drawn



(2)

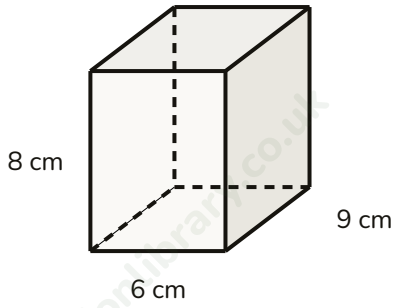
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19 A cuboid measures 6 cm by 9 cm by 8 cm.

What is its volume in cubic centimetres?

Answer: ___ cm cubed

Diagram NOT accurately drawn



(1)

---

20 A square has sides of length 22 cm.

What is its area in square centimetres?

Answer: ___

Diagram NOT accurately drawn



(1)

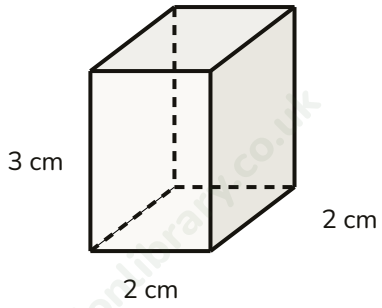
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21 A box is 2 cm long, 2 cm wide and 3 cm high. It is filled with 1 cm cubes.

How many cubes are needed to fill the box?

Answer: ___

Diagram NOT accurately drawn



(2)

---

22 A rectangle is 18 cm long and 15 cm wide.

What is its area in square centimetres?

Answer: ___

(1)

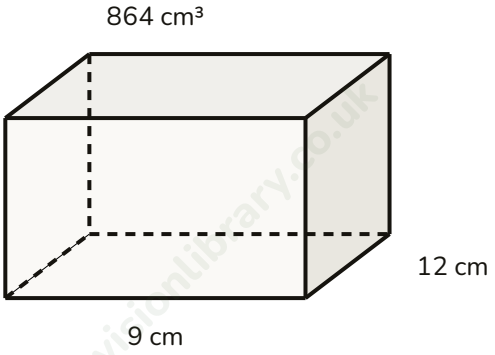
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23 A cuboid has a volume of 864 cm cubed. Its length is 9 cm and its width is 12 cm.

What is its height?

Answer: ___ cm

Diagram NOT accurately drawn



(2)

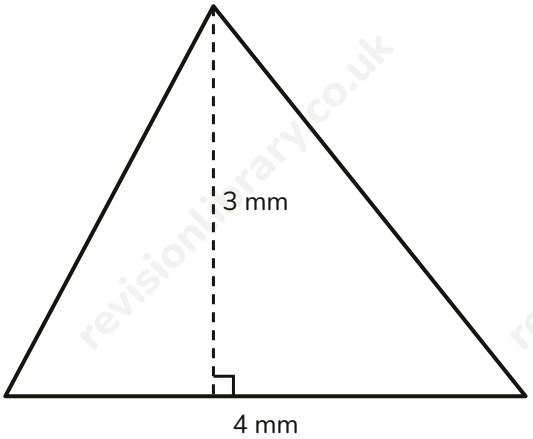
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24 A triangle has a base of 4 mm and a perpendicular height of 3 mm.

What is its area in square millimetres?

Answer: ___

Diagram NOT accurately drawn



(1)

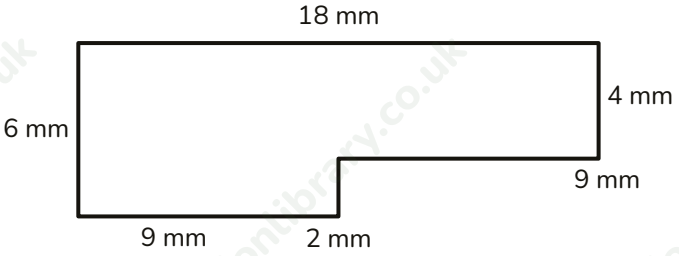
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25 An L-shaped floor has these sides in order around the shape: 18 mm, 4 mm, 9 mm, 2 mm, 9 mm, 6 mm.

What is the perimeter of the floor?

Answer: ___ mm

Diagram NOT accurately drawn



(2)

---

26 A rectangular water tray holds 6 layers of cubes. Each layer is 5 cubes long and 3 cubes wide. How many cubes fit in the tray altogether?

(2)

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Mark scheme · 7.9 Perimeter, Area and Volume: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

28 m cao	B1

Answer: **28 m**

Question 2

finds both areas	M1
subtracts	M1
81 square millimetres cao	A1

Answer: **81 square millimetres**

Question 3

4 x 4 = 16 seen	M1
9 cm cao	A1

Answer: **9 cm**

Question 4

48 mm cao	B1

Answer: **48 mm**

Question 5

5 x 4	M1
20 cm cao	A1

Answer: **20 cm**

Question 6

volume formula seen	M1
320 cao	A1

Answer: **320**

Question 7

divides area by length	M1
14 cm cao	A1

Answer: **14 cm**

Question 8

3.5 litres = 3,500 ml seen	M1
14 cao	A1

Answer: **14**

Question 9

Find whole rectangle area 12 x 5 = 60 and subtract cut-out 4 x 2 = 8	M1
52 cm² cao	B1

Answer: **52 cm²**

Question 10

Find scale factor for length 3/9 = 1/3 and square it or use area proportionality	M1
7 m² cao	B1

Answer: **7 m²**

Question 11

3 cao	B1

Answer: **3**

Question 12

both lengths in the same unit (0.4 km = 400 m, or 250 m = 0.25 km) and used to find the perimeter, e.g. 400 + 250 + 400 + 250 or 2 x (400 + 250)	M1
1,300 m cao	A1

Answer: **1,300 m**

Question 13

finds the number of slabs along each side: 300 / 60 = 5 and 240 / 60 = 4, or 7.2 m² / 0.36 m²	M1
20 cao	A1

Answer: **20**

Question 14

area of the wall found: 7 x 3 = 21 (m2)	M1
21 / 8 = 2 remainder 5 (or 2.625), or 2 tins cover only 16 m²	M1
3 (tins) cao	A1

Answer: **3**

Question 15

length + width = 12 m (half of the fencing) used	M1
areas of at least three different pens with whole-number sides and a perimeter of 24 m worked out, e.g. 5 x 7 = 35, 4 x 8 = 32, 6 x 6 = 36	M1
36 m² cao (the 6 m by 6 m square)	A1

Answer: **36 m²**

Question 16

74 - 52 = 22 seen	M1
11 mm cao	A1

Answer: **11 mm**

Question 17

finds the area of each rectangle	M1
32 square metres cao	A1

Answer: **32 square metres**

Question 18

multiplies two dimensions	M1
224 cm cubed cao	A1

Answer: **224 cm cubed**

Question 19

432 cm cubed cao	B1

Answer: **432 cm cubed**

Question 20

484 square centimetres cao	B1

Answer: **484 square centimetres**

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Question 21

volume formula seen	**M1**
12 cao	**A1**

Answer: **12**

Question 22

270 square centimetres cao	**B1**

Answer: **270 square centimetres**

Question 23

9 x 12 = 108 seen	**M1**
8 cm cao	**A1**

Answer: **8 cm**

Question 24

6 square millimetres cao	**B1**

Answer: **6 square millimetres**

Question 25

adds all six sides	**M1**
48 mm cao	**A1**

Answer: **48 mm**

Question 26

Multiply layer area 5 x 3 = 15 and show times 6	**M1**
90 cao	**B1**

Answer: **90**

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