4.2 Geometry: Area, Perimeter and Volume: 1-hour Pack

Calculator allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

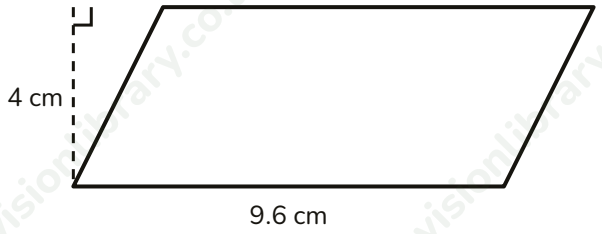
Answer ALL questions. Show all your working.

1 A triangular flag has a base of 14 cm and a perpendicular height of 6 cm. Calculate the area of the flag.

(2)

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2 A parallelogram-shaped tile has a base of 9.6 cm and a perpendicular height of 4 cm. Calculate the area of the tile.

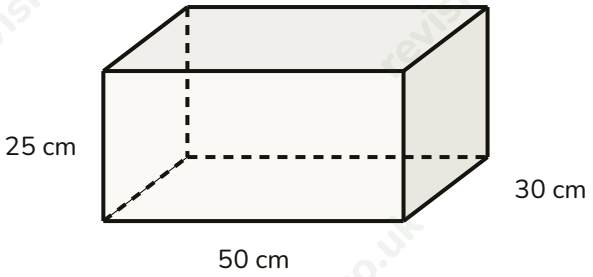


(2)

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3 A fish tank in the shape of a cuboid has internal dimensions 50 cm by 30 cm by 25 cm. Calculate the capacity of the tank in litres.

Diagram NOT accurately drawn

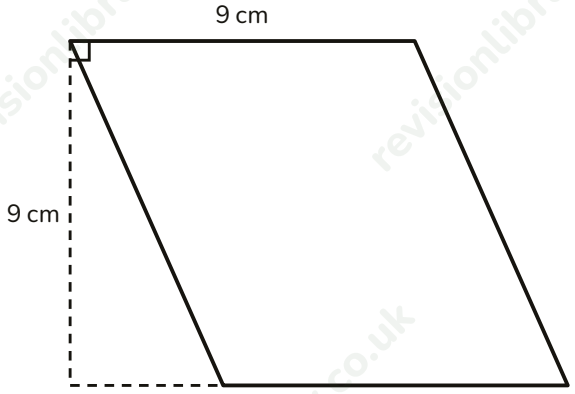


(3)

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4 A parallelogram has a base of 9 cm and a perpendicular height of 9 cm. Work out its area.

Diagram NOT accurately drawn

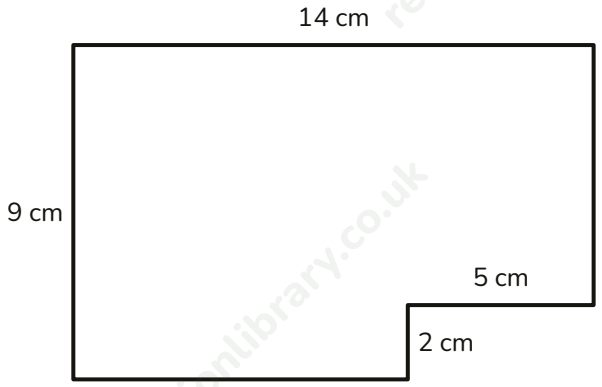


(2)

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5 An L-shape is made by taking a 14 cm by 9 cm rectangle and cutting a 5 cm by 2 cm rectangle out of one corner.
Work out the area of the L-shape.

Diagram NOT accurately drawn



(3)

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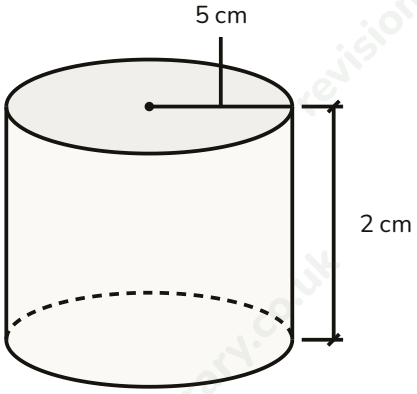
6 The perimeter of a rectangle is 44 m and its length is 14 m. Work out its area.

(3)

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7 A cylinder has radius 5 cm and height 2 cm. Work out its volume in terms of π.

Diagram NOT accurately drawn

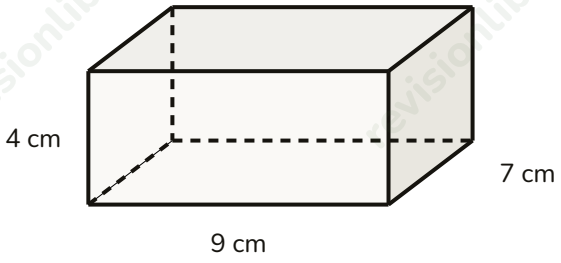


(3)

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8 A cuboid measures 9 cm by 7 cm by 4 cm. Work out its volume.

Diagram NOT accurately drawn

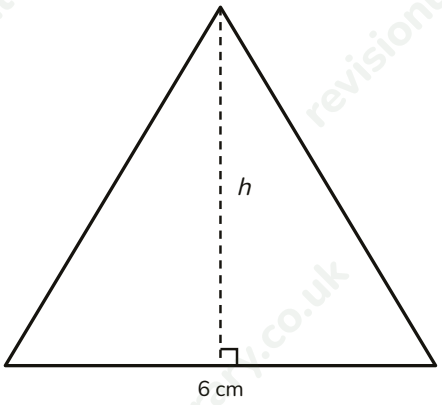


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9 A triangle has area 6 cm² and a base of 6 cm. Work out its perpendicular height.

Diagram NOT accurately drawn

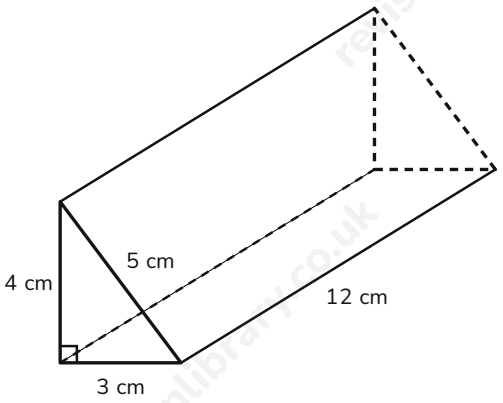


(3)

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10 A triangular prism has a right-angled triangle as its cross-section. The triangle has sides 3 cm, 4 cm and 5 cm (the longest side is 5 cm). The prism is 12 cm long. Work out the total surface area.

Diagram NOT accurately drawn

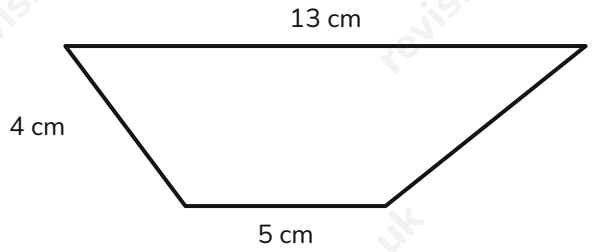


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11 A trapezium has parallel sides of 5 cm and 13 cm. The distance between the parallel sides is 4 cm. Work out the area of the trapezium.

Diagram NOT accurately drawn

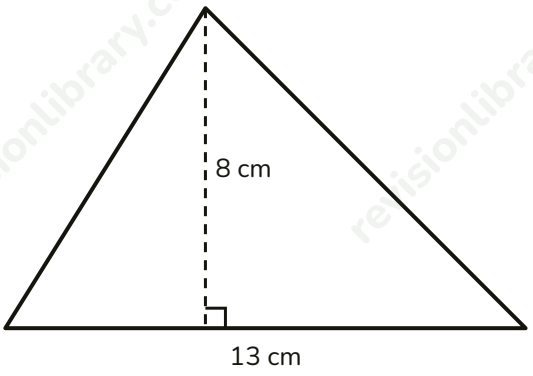


(3)

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12 A triangle has a base of 13 cm and a perpendicular height of 8 cm. Work out its area.

Diagram NOT accurately drawn

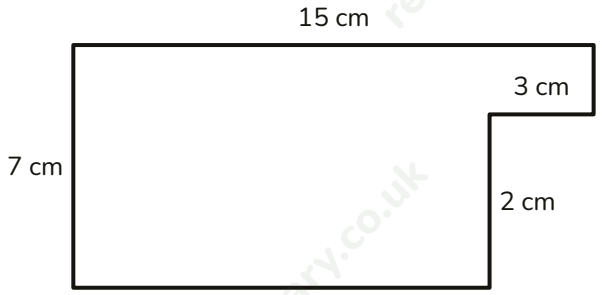


(2)

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13 An L-shape is made by taking a 15 cm by 7 cm rectangle and cutting a 3 cm by 2 cm rectangle out of one corner.
Work out the perimeter of the L-shape.

Diagram NOT accurately drawn

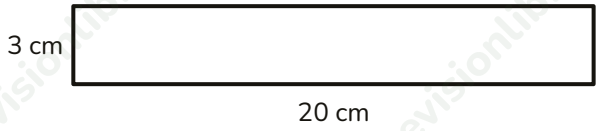


(3)

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14 A rectangle has length 20 cm and width 3 cm. Work out (a) its perimeter and (b) its area.

Diagram NOT accurately drawn

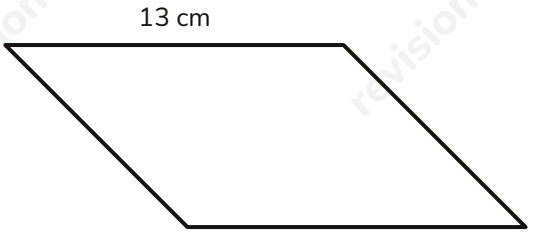


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15 A parallelogram has area 39 cm² and base 13 cm. Work out the perpendicular height.

Diagram NOT accurately drawn

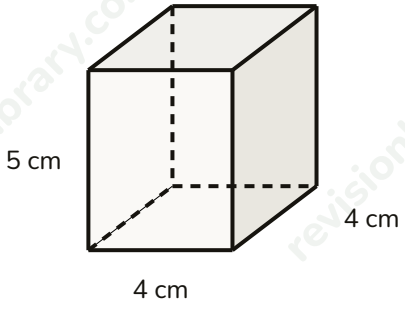


39 cm²

(2)

16 A cuboid measures 4 cm by 4 cm by 5 cm. Work out its volume.

Diagram NOT accurately drawn

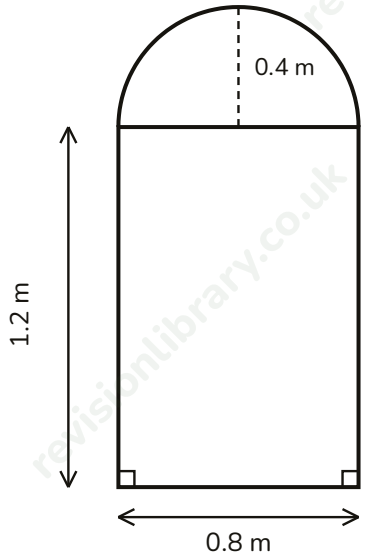


(2)

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17 Use the π button on your calculator. Give your answers to 3 significant figures.

Diagram NOT accurately drawn



(a) A circular mirror has a radius of 4.5 cm. Calculate its area. **(2)**

.....

(b) A window is made from a rectangle 0.8 m wide and 1.2 m tall, with a semicircle of radius 0.4 m fitted on top of it (see diagram). Calculate the total area of the window. **(3)**

.....

18 A small tile has an area of 180 mm². Convert this to cm^2.

(1)

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Mark scheme · 4.2 Geometry: Area, Perimeter and Volume: 1-hour Pack

Question 1

0.5*14*6 oe	M1
42 cm² cao	A1

Answer: **42 cm²**

Question 2

9.6*4 oe	M1
38.4 cm² cao	A1

Answer: **38.4 cm²**

Question 3

50*30*25 (=37500 cm³) oe	M1
1000 cm³ = 1 litre used	M1
37.5 litres cao	A1

Answer: **37.5 litres**

Question 4

9 x 9	M1
81 cm² cao	A1

Answer: **81 cm²**

Question 5

14 x 9 = 126	M1
5 x 2 = 10	M1
116 cm² cao	A1

Answer: **116 cm²**

Question 6

14 + w = 22 (half the perimeter)	M1
w = 8 and 14 x 8	M1
112 m² cao	A1

Answer: **112 m²**

Question 7

$\pi \times 5^2$	M1
x 2	M1
50 π cm³ cao	A1

Answer: **50 π cm³**

Question 8

9 x 7 x 4	M1
252 cm³ cao	A1

Answer: **252 cm³**

Question 9

6 = 1/2 x 6 x h or 6 x 2	M1
12 ÷ 6	M1
2 cm cao	A1

Answer: **2 cm**

Question 10

two triangles: 2 x 1/2 x 3 x 4 = 12	M1
perimeter of triangle x length: 12 x 12	M1
adds the triangles and the rectangles	M1
156 cm² cao	A1

Answer: **156 cm²**

Question 11

5 + 13 = 18	M1
1/2 x 18 x 4	M1
36 cm² cao	A1

Answer: **36 cm²**

Question 12

1/2 x 13 x 8 or 13 x 8 ÷ 2	M1
52 cm² cao	A1

Answer: **52 cm²**

Question 13

identifies that the perimeter equals that of the enclosing rectangle	M1
2 x (15 + 7)	M1
44 cm cao	A1

Answer: **44 cm**

Question 14

(a) 46 cm	B1
(b) 60 cm²	B1

Answer: **(a) 46 cm, (b) 60 cm²**

Question 15

39 ÷ 13	M1
3 cm cao	A1

Answer: **3 cm**

Question 16

4 x 4 x 5	M1
80 cm³ cao	A1

Answer: **80 cm³**

Question 17

(a) $\pi*4.5^2$ oe	M1
(a) awrt 63.6 cm²	A1
(a) Answer: **63.6 cm² (3 sf)**	
(b) 0.8*1.2 (=0.96) oe	M1
(b) $0.5*\pi*0.4^2$ (=0.251...) oe	M1
(b) awrt 1.21 m² cao	A1
(b) Answer: **1.21 m² (3 sf)**	

Question 18

1.8 cm² cao	B1

Answer: **1.8 cm²**

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