2.11-2 Perimeter, Area and Volume: Practice Set 2: 30-minute Pack

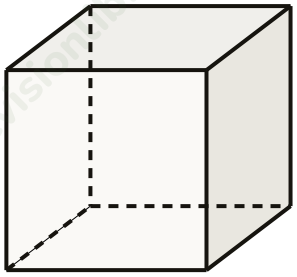
Total Marks

GL ASSESSMENT GL · Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

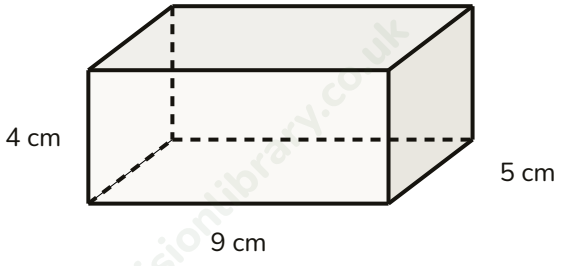
1 A cube has edges of length 5 cm. Calculate the volume of the cube.



(2)

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2 A cuboid has length 9 cm, width 5 cm and height 4 cm. Calculate the volume of the cuboid.

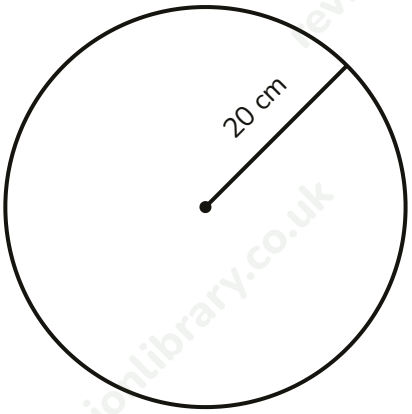


(3)

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3 A circle has a radius of 20 cm.

Diagram NOT accurately drawn



(not to scale)

(a) Write down the length of the diameter of the circle, and explain how you worked it out. **(2)**

(b) A square is drawn so that the circle just fits inside it, touching all four sides. Work out the perimeter of the square. **(2)**

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4 A rectangular allotment measures 16 m by 9 m. Fencing costs £5.50 per metre.

(a) Calculate the perimeter of the allotment. **(2)**

(b) Calculate the total cost of fencing the whole perimeter of the allotment. **(2)**

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5 A rectangular patio measures 7 m by 5 m. Artificial turf costs £9 per square metre.

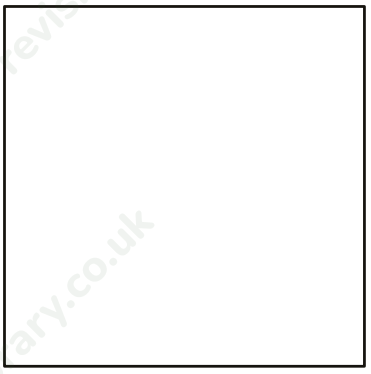
(a) Calculate the area of the patio. **(2)**

.....

(b) Calculate the total cost of covering the whole patio with artificial turf. **(2)**

.....

6 A square has a perimeter of 44 cm. Calculate the area of the square.

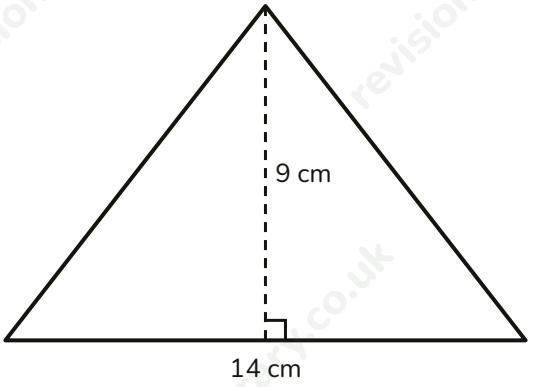


44 cm

(2)

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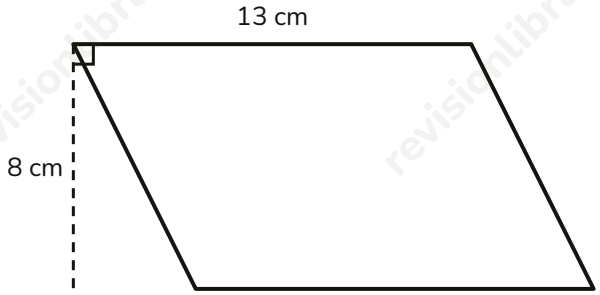
7 A triangle has a base of 14 cm and a perpendicular height of 9 cm. Calculate the area of the triangle.



(2)

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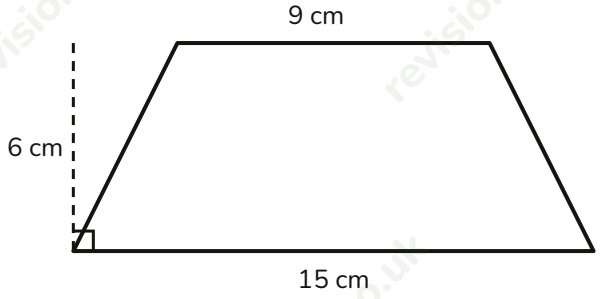
8 A parallelogram has a base of 13 cm and a perpendicular height of 8 cm. Calculate the area of the parallelogram.



(2)

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9 A trapezium has parallel sides of length 9 cm and 15 cm, and a perpendicular height of 6 cm. Calculate the area of the trapezium.

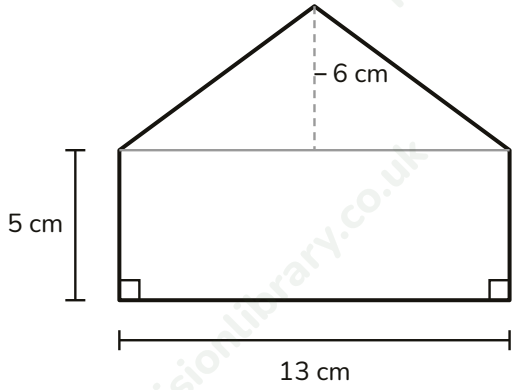


(3)

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10 A garden trophy plaque is made from a rectangle with a triangle on top, forming a simple shield-shaped outline. The rectangle is 13 cm wide and 5 cm tall. The triangle on top has a base of 13 cm and a perpendicular height of 6 cm. Calculate the total area of the shape.

Diagram NOT accurately drawn



(not to scale)

(3)

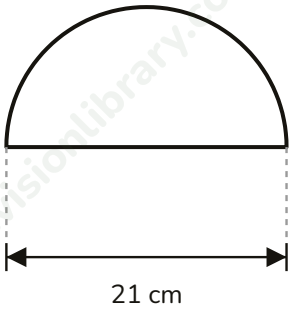
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11 A semicircular rug has a straight edge of 21 cm, which is the diameter of the circle it was cut from.

(a) Write down the radius of that circle.

(b) A second rug is a semicircle cut from a circle of radius 14 cm. Write down the length of its straight edge.

Diagram NOT accurately drawn



not to scale

(3)

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Mark scheme · 2.11-2 Perimeter, Area and Volume: Practice Set 2: 30-minute Pack

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

Question 1

5 * 5 * 5 seen (or 5^3)	**M1**
125 cm³ cao	**A1**

Answer: 125 cm^3

Question 2

correct substitution into V = l * w * h	**M1**
9 * 5 = 45 (or equivalent correct intermediate step)	**M1**
180 cm³ cao	**A1**

Answer: 180 cm^3

Question 3

(a) 40 cm cao	**M1**
(a) reason: the diameter is twice the radius oe	**A1**

(a) Answer: 40 cm (the diameter is twice the radius)

(b) side of the square = the diameter = 40 cm seen oe	**M1**
(b) 160 cm cao	**A1**

(b) Answer: 160 cm

Question 4

(a) 2 * (16 + 9) seen	**M1**
(a) 50 m cao	**A1**

(a) Answer: 50 m

(b) their (a) * 5.50 (ft)	**M1**
(b) £275 cao	**A1**

(b) Answer: £275

Question 5

(a) 7 * 5 seen	**M1**
(a) 35 m² cao	**A1**

(a) Answer: 35 m^2

(b) their (a) * 9 (ft)	**M1**
(b) £315 cao	**A1**

(b) Answer: £315

Question 6

side length found: 44 / 4 = 11 cm	**M1**
121 cm² cao	**A1**

Answer: 121 cm^2

Question 7

0.5 * 14 * 9 seen	**M1**
63 cm² cao	**A1**

Answer: 63 cm^2

Question 8

13 * 8 seen	**M1**
104 cm² cao	**A1**

Answer: 104 cm^2

Question 9

9 + 15 = 24 seen	**M1**
0.5 * 24 * 6 seen (oe)	**M1**
72 cm² cao	**A1**

Answer: 72 cm^2

Question 10

rectangle area 13 * 5 = 65 cm²	**M1**
triangle area 0.5 * 13 * 6 = 39 cm²	**M1**
104 cm² cao (ft their two areas added)	**A1**

Answer: 104 cm^2

Question 11

radius of the first circle = 21 / 2 = 10.5 cm cao	**M1**
diameter of the second circle = 2 * 14 seen oe	**M1**
straight edge of the second rug = 28 cm cao	**A1**

Answer: Radius 10.5 cm; second straight edge 28 cm

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