2.26 Geometry and Measures Depth: 30-minute Pack

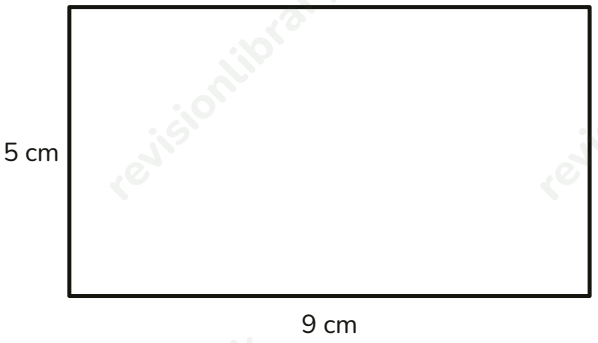
GL ASSESSMENT GL · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A rectangle has length 9 cm and width 5 cm. What is its perimeter?



- ☐ A) 14 cm
- ☐ B) 28 cm
- ☐ C) 45 cm
- ☐ D) 24 cm

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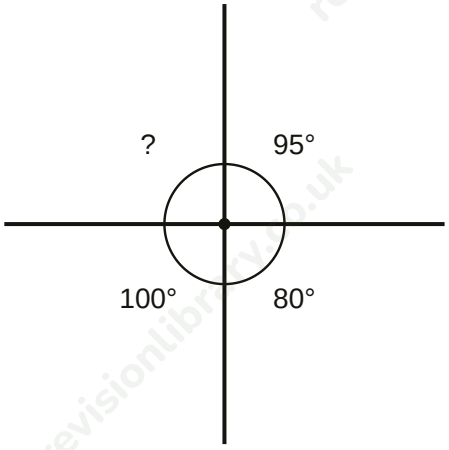
2 A rectangle measures 7 cm by 6 cm. What is its area?

- ☐ A) 13 cm²
- ☐ B) 26 cm²
- ☐ C) 42 cm²
- ☐ D) 48 cm²

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3 Four angles meet at a point. Three of them are 95 degrees, 80 degrees and 100 degrees. What is the fourth angle?

Diagram NOT accurately drawn



(not to scale)

- [ ] A) 85 degrees
- [ ] B) 95 degrees
- [ ] C) 105 degrees
- [ ] D) 75 degrees

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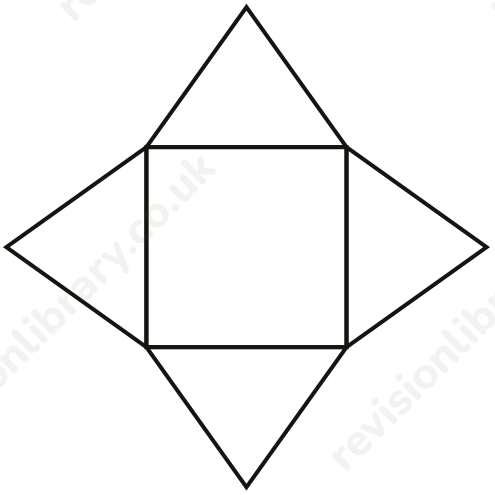
4 A 3D shape has 6 faces, 12 edges and 8 vertices, and every one of its faces is an identical square. What is this shape?

- ☐ A) Cube
- ☐ B) Triangular prism
- ☐ C) Cuboid
- ☐ D) Square-based pyramid

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5 The diagram shows a net made from a square in the centre with four identical triangles attached, one to each side of the square. Which 3D shape does this net fold up to make?

Diagram NOT accurately drawn



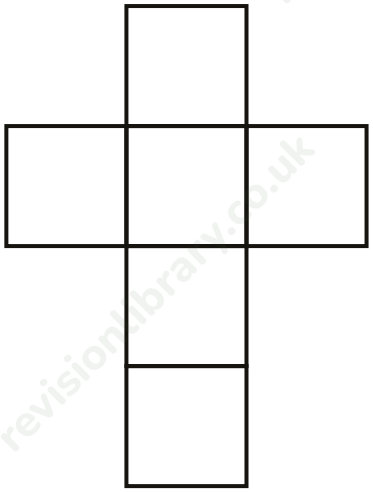
(not to scale)

- ☐ A) Triangular prism
- ☐ B) Cube
- ☐ C) Tetrahedron
- ☐ D) Square-based pyramid

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6 The diagram shows a net made from six identical squares arranged in a cross shape. State the 3D shape made by folding the net.

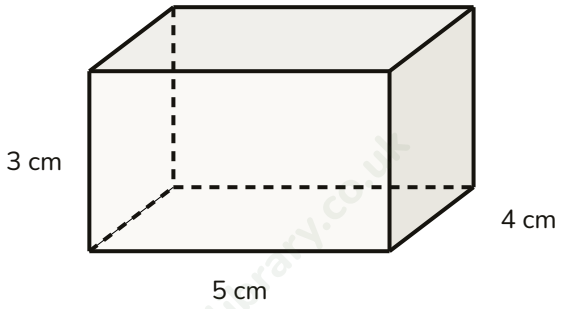
Diagram NOT accurately drawn



(not to scale)

(1)

7 A cuboid has length 5 cm, width 4 cm and height 3 cm. Calculate the volume of the cuboid.



(2)

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8 A point P has coordinates (3, -2). In which quadrant of the coordinate grid does P lie?

- ☐ A) First
- ☐ B) Third
- ☐ C) Fourth
- ☐ D) Second

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9 Convert each of these measurements.

(a) Convert 2.4 kilograms into grams. **(1)**

(b) Convert 1750 millilitres into litres. **(1)**

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10 Fatima catches a train that departs Leeds at 09:47 and arrives in York at 10:22. After waiting at York for 18 minutes, the train continues and arrives in Newcastle at 12:15.

(a) Calculate how many minutes the journey from Leeds to York takes. **(1)**

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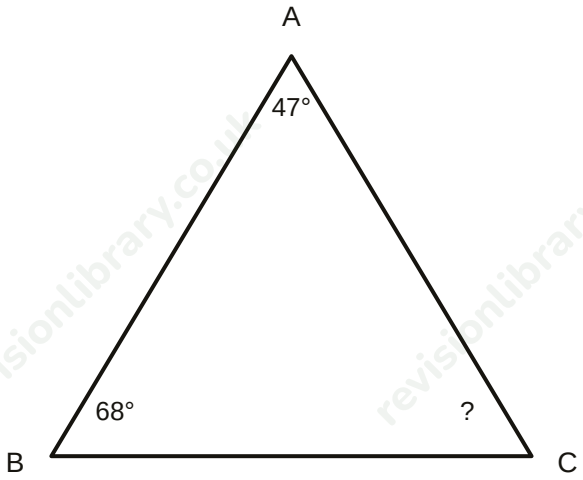
(b) Calculate how long the journey from York to Newcastle takes, giving your answer in hours and minutes. **(2)**

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11 In triangle ABC, angle A = 47 degrees and angle B = 68 degrees. Calculate the size of angle C.

Diagram NOT accurately drawn



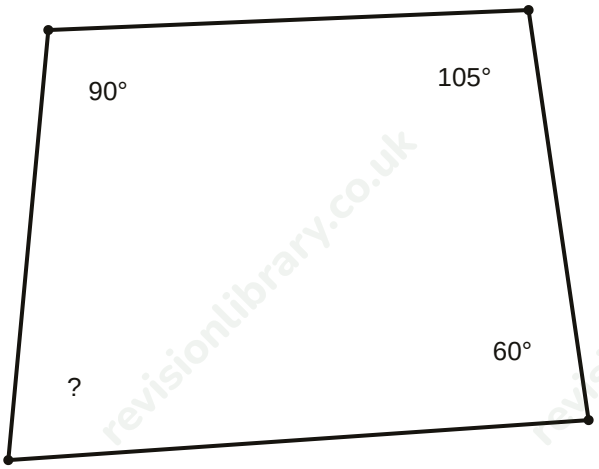
(not to scale)

(2)

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12 A quadrilateral has angles of 90 degrees, 105 degrees and 60 degrees. Calculate the size of the fourth angle.

Diagram NOT accurately drawn



(not to scale)

(2)

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13 Priya draws a regular polygon with 7 equal sides and 7 equal angles.

(a) State the mathematical name of Priya's polygon. **(1)**

(b) State the order of rotational symmetry of a regular heptagon. **(1)**

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14 Zara draws a quadrilateral that has two pairs of parallel sides, with all four sides equal in length, but none of its angles are right angles.

(a) Name Zara's quadrilateral. **(1)**

(b) State the number of lines of symmetry of a rhombus that is not a square. **(1)**

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15 A square-based pyramid has a square base and four triangular faces that meet at a single apex point above the base.

(a) State the number of faces of the square-based pyramid. **(1)**

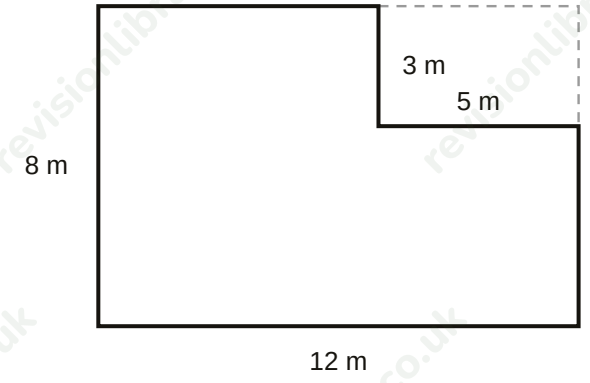
(b) State the number of edges of the square-based pyramid. **(1)**

(c) State the number of vertices of the square-based pyramid. **(1)**

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16 Oliver's patio is L-shaped, formed by removing a rectangular corner measuring 5 m by 3 m from a rectangle measuring 12 m by 8 m, as shown in the diagram. Calculate the perimeter of the patio.

Diagram NOT accurately drawn



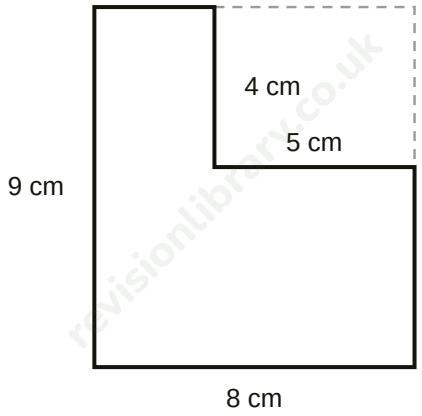
(not to scale)

(3)

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17 Aaliyah's garden is L-shaped, as shown in the diagram. The overall shape fits inside a rectangle 8 cm by 9 cm; a rectangular corner measuring 5 cm by 4 cm has been removed. Calculate the area of the garden.

Diagram NOT accurately drawn



(3)

---

18 Connor uses a set of kitchen scales. The dial is numbered every 200 g, with 4 equally spaced unlabelled small divisions between each pair of numbered marks. The needle points to the 3rd small division after the 800 g mark.

(a) State the value of each small division, in grams. **(1)**

(b) Calculate the mass, in grams, that the needle is pointing to. **(1)**

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Mark scheme · 2.26 Geometry and Measures Depth: 30-minute Pack

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

Question 1

B cao **B1**

Answer: B) 28 cm

Question 2

C cao **B1**

Answer: C) 42 cm^2

Question 3

A cao **B1**

Answer: A) 85 degrees

Question 4

A cao **B1**

Answer: A) Cube

Question 5

D cao **B1**

Answer: D) Square-based pyramid

Question 6

cube cao **B1**

Answer: cube

Question 7

5 x 4 x 3 seen (or correct substitution into V = l x w x h) **M1**

60 cm^3 cao **A1**

Answer: 60 cm^3

Question 8

C cao **B1**

Answer: C) Fourth

Question 9

(a) 2400 g cao **B1**

(a) Answer: 2400 g

(b) 1.75 litres cao **B1**

(b) Answer: 1.75 litres

Question 10

(a) 35 minutes cao **B1**

(a) Answer: 35 minutes

(b) departure time from York found: 10:22 + 18 minutes = 10:40 **M1**

(b) 1 hour 35 minutes cao **A1**

(b) Answer: 1 hour 35 minutes

Question 11

180 - 47 - 68 seen **M1**

65 degrees cao **A1**

Answer: angle C = 65 degrees

Question 12

360 - 90 - 105 - 60 seen **M1**

105 degrees cao **A1**

Answer: 105 degrees

Question 13

(a) heptagon oe (accept septagon) **B1**

(a) Answer: heptagon

(b) 7 cao **B1**

(b) Answer: 7

Question 14

(a) rhombus cao **B1**

(a) Answer: rhombus

(b) 2 cao **B1**

(b) Answer: 2

Question 15

(a) 5 cao **B1**

(a) Answer: 5

(b) 8 cao **B1**

(b) Answer: 8

(c) 5 cao **B1**

(c) Answer: 5

Question 16

missing lengths found: 12 - 5 = 7 (m) and 8 - 3 = 5 (m) **M1**

all six sides identified and added: 12 + 5 + 5 + 3 + 7 + 8 **M1**

40 m cao **A1**

Answer: 40 m

Question 17

large rectangle area 8 x 9 = 72 cm^2 **M1**

removed rectangle area 5 x 4 = 20 cm^2 **M1**

52 cm^2 cao (ft 72 - their removed area) **A1**

Answer: 52 cm^2

Question 18

(a) 40 g cao **B1**

(a) Answer: 40 g

(b) 920 g cao **B1**

(b) Answer: 920 g

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