2.26-2 Geometry and Measures Depth Set 2: 30-minute Pack

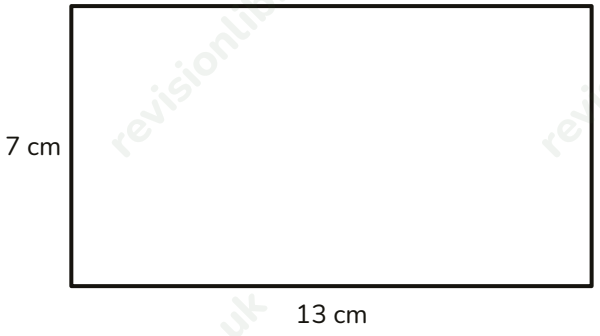
Total Marks

GL ASSESSMENT GL · Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

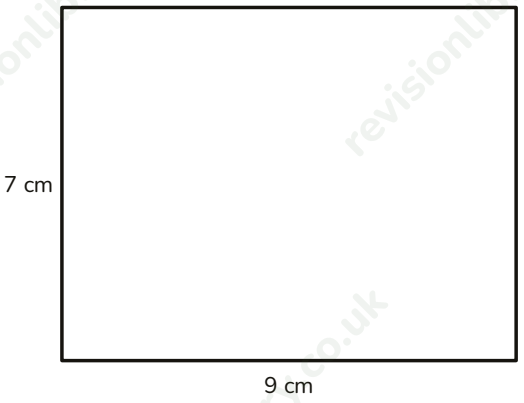
1 A rectangle has length 13 cm and width 7 cm. What is its perimeter?



- ☐ A) 20 cm
- ☐ B) 33 cm
- ☐ C) 40 cm
- ☐ D) 91 cm

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2 A rectangle has length 9 cm and width 7 cm. What is its area?



- ☐ A) 16 cm²
- ☐ B) 32 cm²
- ☐ C) 63 cm²
- ☐ D) 126 cm²

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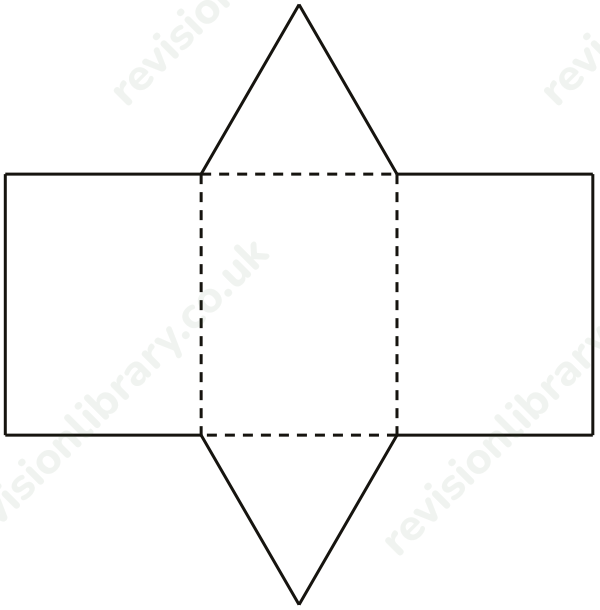
3 A 3D shape has 4 faces, 6 edges and 4 vertices, and every one of its faces is an identical triangle. What is this shape?

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

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4 The diagram shows a net made from two identical triangles and a strip of three rectangles. One triangle is attached to the top edge of the middle rectangle and the other to its bottom edge. Which 3D shape does this net fold up to make?

Diagram NOT accurately drawn

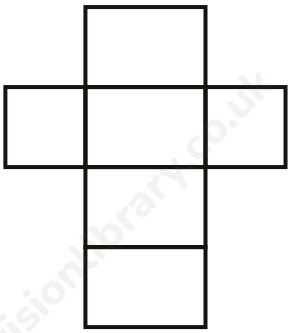


- ☐ A) Cuboid
- ☐ B) Triangular prism
- ☐ C) Square-based pyramid
- ☐ D) Tetrahedron

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5 The diagram shows a net made from six rectangles: a central column of four rectangles, with one extra rectangle attached to the left of the second rectangle in the column and one extra rectangle attached to the right of the second rectangle in the column. State the 3D shape made by the net.

Diagram NOT accurately drawn

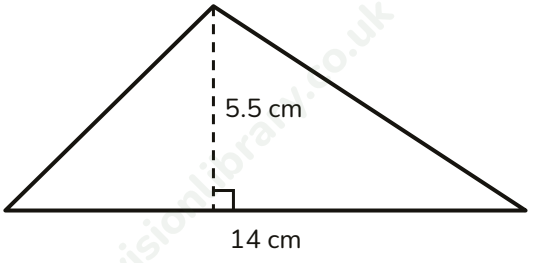


(not to scale)

(1)

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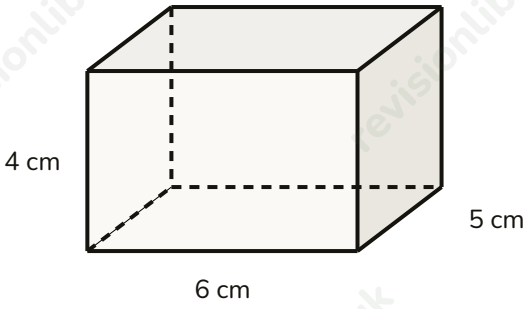
6 A triangle has a base of 14 cm and a perpendicular height of 5.5 cm. Calculate the area of the triangle.



(2)

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7 A cuboid has length 6 cm, width 5 cm and height 4 cm. Calculate the volume of the cuboid.



(2)

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8 A point Q has coordinates (-4, 5). In which quadrant of the coordinate grid does Q lie?

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

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9 Convert each of these measurements.

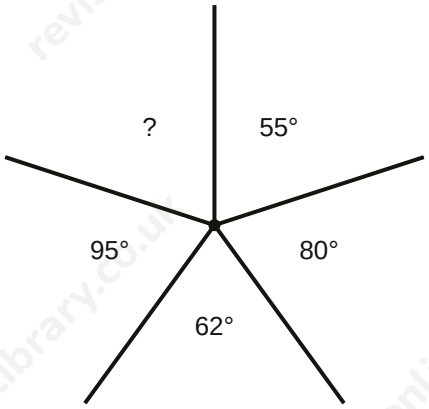
(a) Convert 0.75 kilograms into grams. **(1)**

(b) Convert 3400 millilitres into litres. **(1)**

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10 Five angles meet at a single point. Four of them are 55 degrees, 80 degrees, 62 degrees and 95 degrees. What is the fifth angle?

Diagram NOT accurately drawn



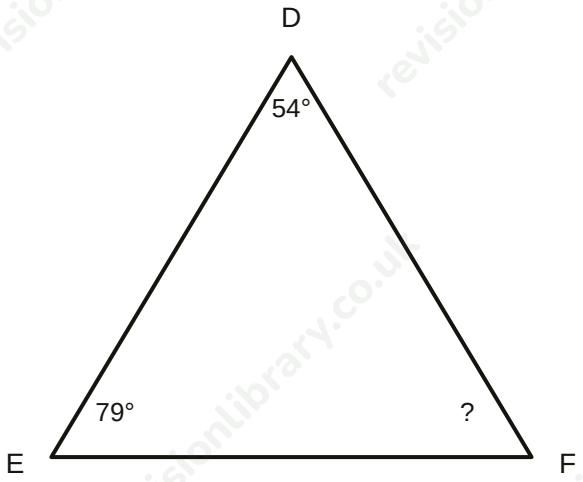
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11 In triangle DEF, angle D = 54 degrees and angle E = 79 degrees. Calculate the size of angle F.

Diagram NOT accurately drawn



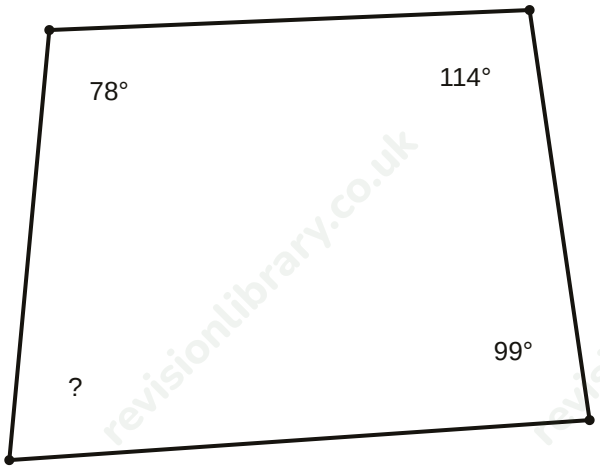
(not to scale)

(2)

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12 A quadrilateral has angles of 78 degrees, 114 degrees and 99 degrees. Calculate the size of the fourth angle.

Diagram NOT accurately drawn



(not to scale)

(2)

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13 Marcus draws a regular polygon with 9 equal sides and 9 equal angles.

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

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

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14 Leah draws a quadrilateral that has two pairs of adjacent equal sides and exactly one pair of equal opposite angles, and it is not a rhombus.

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

(b) State the number of lines of symmetry of Leah's quadrilateral. **(1)**

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15 Ibrahim draws a parallelogram that is not a rectangle and not a rhombus.

(a) State the number of lines of symmetry of Ibrahim's parallelogram. **(1)**

(b) State the order of rotational symmetry of Ibrahim's parallelogram. **(1)**

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16 Deepa reads the scale on a measuring jug. The scale is numbered every 100 ml, with 4 equally spaced unlabelled small divisions between each pair of numbered marks. The water level is at the 3rd small division after the 400 ml mark.

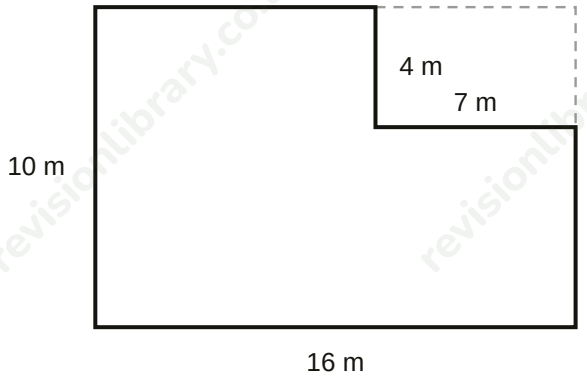
(a) State the value of each small division, in millilitres. **(1)**

(b) Calculate the volume of water in the jug, in millilitres. **(1)**

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17 A school sports hall floor is L-shaped, formed by removing a rectangular storage room measuring 7 m by 4 m from a rectangle measuring 16 m by 10 m, as shown in the diagram. Calculate the perimeter of the sports hall floor.

Diagram NOT accurately drawn



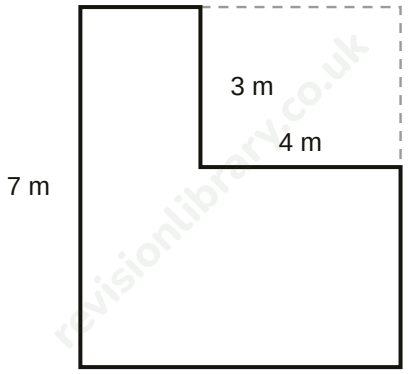
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(3)

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18 A school stage is L-shaped. The overall shape fits inside a rectangle 11 m by 7 m; a rectangular corner measuring 4 m by 3 m has been removed, as shown in the diagram. Calculate the area of the stage.

Diagram NOT accurately drawn



(not to scale)

(3)

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Mark scheme · 2.26-2 Geometry and Measures Depth Set 2: 30-minute Pack

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

Question 1

C cao **B1**

Answer: C) 40 cm

Question 2

C cao **B1**

Answer: C) 63 cm^2

Question 3

C cao **B1**

Answer: C) Tetrahedron

Question 4

B cao **B1**

Answer: B) Triangular prism

Question 5

cuboid cao **B1**

Answer: cuboid

Question 6

0.5 x 14 x 5.5 seen **M1**

38.5 cm^2 cao **A1**

Answer: 38.5 cm^2

Question 7

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

120 cm^3 cao **A1**

Answer: 120 cm^3

Question 8

B cao **B1**

Answer: B) Second

Question 9

(a) 750 g cao **B1**

(a) Answer: 750 g

(b) 3.4 litres cao **B1**

(b) Answer: 3.4 litres

Question 10

55 + 80 + 62 + 95 = 292 seen (angles around a point sum to 360 degrees) **M1**

68 degrees cao **A1**

Answer: 68 degrees

Question 11

180 - 54 - 79 seen **M1**

47 degrees cao **A1**

Answer: angle F = 47 degrees

Question 12

360 - 78 - 114 - 99 seen (angles in a quadrilateral sum to 360 degrees) **M1**

69 degrees cao **A1**

Answer: 69 degrees

Question 13

(a) nonagon cao **B1**

(a) Answer: nonagon

(b) 9 cao **B1**

(b) Answer: 9

Question 14

(a) kite cao **B1**

(a) Answer: kite

(b) 1 cao **B1**

(b) Answer: 1

Question 15

(a) 0 cao **B1**

(a) Answer: 0

(b) 2 cao **B1**

(b) Answer: 2

Question 16

(a) 20 ml cao **B1**

(a) Answer: 20 ml

(b) 460 ml cao **B1**

(b) Answer: 460 ml

Question 17

missing lengths found: 16 - 7 = 9 (m) and 10 - 4 = 6 (m) **M1**

all six sides identified and added: 16 + 6 + 7 + 4 + 9 + 10 **M1**

52 m cao **A1**

Answer: 52 m

Question 18

large rectangle area 11 x 7 = 77 m^2 **M1**

removed rectangle area 4 x 3 = 12 m^2 **M1**

65 m^2 cao (ft 77 - their removed area) **A1**

Answer: 65 m^2

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