8.3 Geometry and Measures Depth: 1-hour Pack

NCETM National Curriculum (2014) Mathematics - KS2 Geometry and Measures (Depth) · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A right angle is split into two angles. One of them is 67 degrees.

What is the other?

Answer: ___ degrees

(1)

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2 A rectangle is 28 m long and 5 m wide.

What is its area in square metres?

Answer: ___

(1)

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3 How many edges does a hexagonal-based pyramid have?

Answer: ___

(1)

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4 Three angles in a quadrilateral are 74, 66 and 109 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

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5 Angles on a straight line add up to 180 degrees. Two angles on a straight line are 56 degrees and 82 degrees. A third angle fills the rest of the line.

What is the third angle?

Answer: ___ degrees

(2)

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6 A circle has a radius of 27 cm. What is its diameter?

Answer: ___ cm

(1)

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7 Answer the questions about reflections on a coordinate grid.

(a) Point R has coordinates (4, 2). R is reflected in the y-axis. Write down the coordinates of the image of R. **(2)**

.....

(b) Point S has coordinates (-3, 5). S is reflected in the x-axis. Write down the coordinates of the image of S. **(2)**

.....

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8 Points C and D are at (6, -5) and (6, 1). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

(1)

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9 Convert 2,000 m to km.

Answer: ___ km

(1)

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10 A rectangular field is 45 m long and 18 m wide.

(a) Work out the area of the field. **(2)**

.....

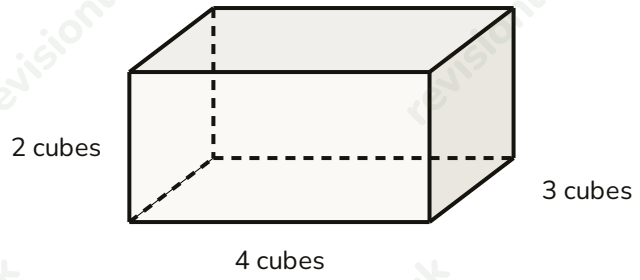
(b) Work out the perimeter of the field. **(2)**

.....

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11 A cuboid is built using 1 cm cubes. It is 4 cubes long, 3 cubes wide and 2 cubes high.

Diagram NOT accurately drawn



(a) How many 1 cm cubes are needed to build the cuboid? **(2)**

.....

(b) Write down the volume of the cuboid, giving the correct unit. **(1)**

.....

12 A cardboard box measures 12 cm by 7 cm by 5 cm. Work out the volume of the box.

(2)

13 Answer the questions about reading scales.

(a) A kitchen scale dial is numbered every 100 g from 0 g to 1000 g, with 5 equally spaced small divisions between each numbered mark. The pointer stops 3 small divisions past the 400 g mark. What reading does the scale show? **(2)**

.....

(b) A measuring jug is marked in 50 ml intervals from 0 ml to 500 ml. The water level is exactly halfway between the 250 ml and 300 ml marks. What is the reading? **(1)**

.....

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14 How many edges does a prism with an octagonal cross-section (8 sides) have?

Answer: ___

(2)

---

15 An isosceles triangle has an angle of 124 degrees between its two equal sides.

What size is each of the other two angles?

Answer: ___ degrees

(2)

---

16 How many faces does a prism with an octagonal cross-section (8 sides) have?

Answer: ___

(2)

---

17 An angle measures 342 degrees. Is it acute, obtuse or reflex?

Answer: ___

(1)

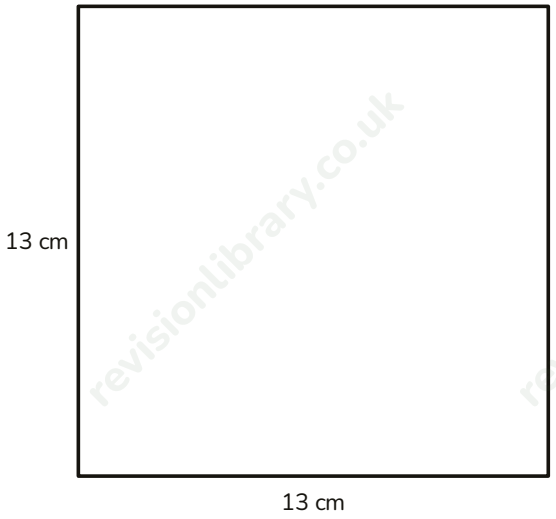
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18 A square has sides of length 13 cm.

What is its area in square centimetres?

Answer: ___

Diagram NOT accurately drawn



(1)

19 A shape has vertices A(1, 5), B(2, 3), C(4, 3), D(6, 2). It is translated 4 units right and 2 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

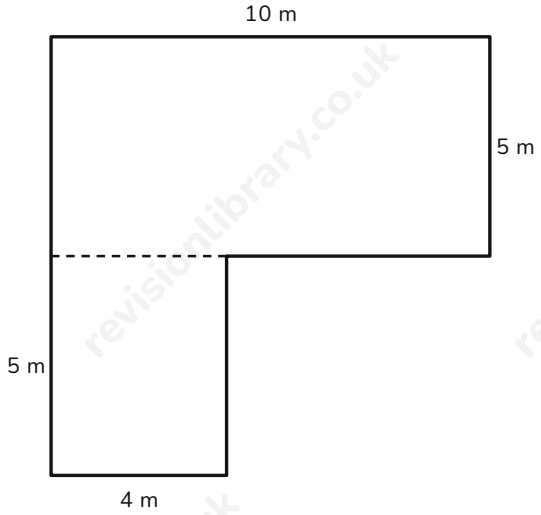
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20 An L-shape is made from two rectangles joined together. The first rectangle is 10 m by 5 m. The second is 4 m by 5 m.

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

Answer: ___

Diagram NOT accurately drawn



(2)

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21 Points C and D are at (5, 0) and (5, 6). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

(1)

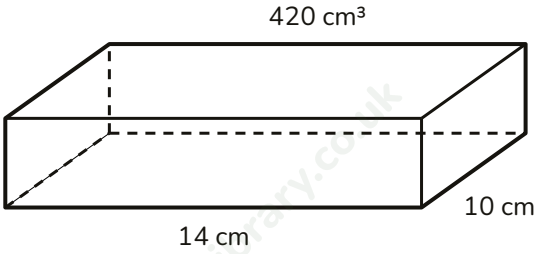
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22 A cuboid has a volume of 420 cm cubed. Its length is 14 cm and its width is 10 cm.

What is its height?

Answer: ___ cm

Diagram NOT accurately drawn



(2)

---

23 How many lines of symmetry does a regular octagon have?

Answer: ___

(1)

---

24 I am a quadrilateral. I have 0 right angles and 2 lines of symmetry.

What shape am I?

Answer: ___

(2)

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25 An isosceles triangle has an angle of 102 degrees between its two equal sides.

What size is each of the other two angles?

Answer: ___ degrees

(2)

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26 How many triangles can you make by drawing lines from one corner of a heptagon to every other corner it is not already joined to?

Answer: ___

(2)

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Mark scheme · 8.3 Geometry and Measures Depth: 1-hour Pack

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

Question 1

23 degrees cao — **B1**

Answer: **23 degrees**

Question 2

140 square metres cao — **B1**

Answer: **140 square metres**

Question 3

12 cao — **B1**

Answer: **12**

Question 4

249 seen — **M1**

111 degrees cao — **A1**

Answer: **111 degrees**

Question 5

138 seen — **M1**

42 degrees cao — **A1**

Answer: **42 degrees**

Question 6

54 cm cao — **B1**

Answer: **54 cm**

Question 7

(a) correct process shown, the x-coordinate changes sign and the y-coordinate stays the same — **M1**

(a) (-4, 2) cao — **A1**

(a) Answer: **(-4, 2)**

(b) correct process shown, the y-coordinate changes sign and the x-coordinate stays the same — **M1**

(b) (-3, -5) cao — **A1**

(b) Answer: **(-3, -5)**

Question 8

6 units cao — **B1**

Answer: **6 units**

Question 9

2 km cao — **B1**

Answer: **2 km**

Question 10

(a) 45 x 18 set up — **M1**

(a) 810 m^2 cao — **A1**

(a) Answer: **810 m^2**

(b) 2 x (45 + 18) set up — **M1**

(b) 126 m cao — **A1**

(b) Answer: **126 m**

Question 11

(a) 4 x 3 x 2 set up — **M1**

(a) 24 cao — **A1**

(a) Answer: **24**

(b) 24 cm^3 cao (ft from part a) — **B1**

(b) Answer: **24 cm^3**

Question 12

12 x 7 x 5 set up — **M1**

420 cm^3 cao — **A1**

Answer: **420 cm^3**

Question 13

(a) each small division found as 100 / 5 = 20 g — **M1**

(a) 460 g cao — **A1**

(a) Answer: **460 g**

(b) 275 ml cao — **B1**

(b) Answer: **275 ml**

Question 14

uses a rule or counts carefully — **M1**

24 cao — **A1**

Answer: **24**

Question 15

56 seen — **M1**

28 degrees cao — **A1**

Answer: **28 degrees**

Question 16

uses a rule or counts carefully — **M1**

10 cao — **A1**

Answer: **10**

Question 17

reflex cao — **B1**

Answer: **reflex**

Question 18

169 square centimetres cao — **B1**

Answer: **169 square centimetres**

Question 19

two vertices correct — **M1**

(5, 7), (6, 5), (8, 5), (10, 4) cao — **A1**

Answer: **(5, 7), (6, 5), (8, 5), (10, 4)**

Question 20

finds the area of each rectangle — **M1**

70 square metres cao — **A1**

Answer: **70 square metres**

Question 21

6 units cao — **B1**

Answer: **6 units**

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Question 22

14 x 10 = 140 seen	**M1**
3 cm cao	**A1**

Answer: **3 cm**

Question 23

8 cao	**B1**

Answer: **8**

Question 24

eliminates at least one shape	**M1**
rhombus cao	**A1**

Answer: **rhombus**

Question 25

78 seen	**M1**
39 degrees cao	**A1**

Answer: **39 degrees**

Question 26

identifies the corners not already joined	**M1**
5 cao	**A1**

Answer: **5**

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