8.7 Reasoning: Measures and Geometry: Test Pack

Calculators not allowed · about 55 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write 2,450 centimetres as metres.

(1)

2 Ravi buys 4 lollies at £3.62 each and 4 kites at £3.24 each. Ravi pays with £30.

How much change does Ravi get?

Answer: £___

(2)

3 Three angles in a quadrilateral are 126, 116 and 59 degrees.

What is the fourth angle?

Answer: ___ degrees

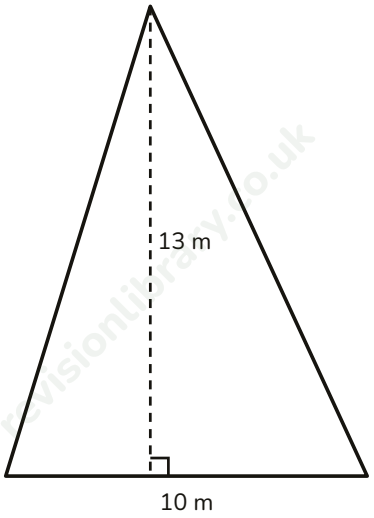
(2)

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4 A triangle has a base of 10 m and a perpendicular height of 13 m.

What is its area in square metres?

Answer: ___



(1)

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5 A rectangle measures 6 m by 8 m. A smaller rectangle 4 m by 4 m is cut out of one corner.

What is the area of the shape that is left, in square metres?

Answer: ___

(3)

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6 A triangular field has base 24 m and height 10 m. Calculate its area in square metres.

(2)

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7 Estimate the total length by rounding each length to the nearest metre, then adding: 3.48 m, 2.66 m and 4.21 m. Give your estimate.

(2)

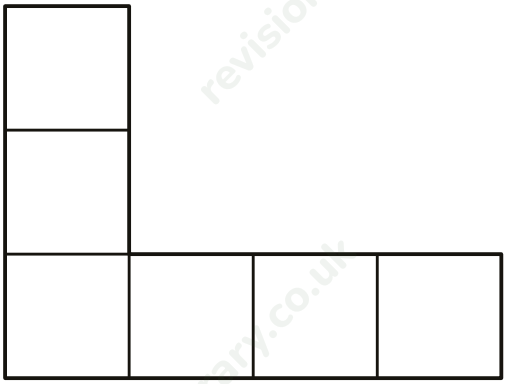
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8 Here are two shapes made from the same six identical 1 cm by 1 cm squares. Shape X is a 2 by 3 rectangle. Shape Y is an L shape with the same squares. Do the shapes have the same area? Explain your answer.

X



Y



(2)

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9 A rectangle has width 6.3 m and perimeter 28.6 m. Work out the length of the rectangle.



Perimeter = 28.6 m

(2)

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10 An angle on a diagram is 321 degrees. What is the size of the angle needed to complete a full turn?

Answer: ___ degrees

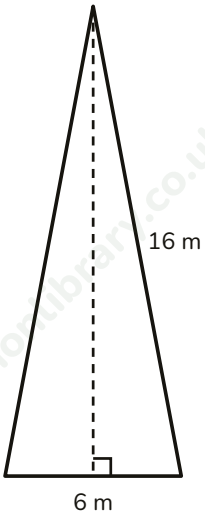
(1)

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11 A triangle has a base of 6 m and a perpendicular height of 16 m.

What is its area in square metres?

Answer: ___



(1)

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12 A rectangle has a perimeter of 78 cm. Its length is 31 cm.

What is its width?

Answer: ___ cm



Perimeter = 78 cm

(1)

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13 Which is the larger angle: 132 degrees or 3/4 of a right angle? Tick the larger angle.

- ☐ 132 degrees
- ☐ 3/4 of a right angle

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14 A rectangle measures 7 m by 5 m. A smaller rectangle 3 m by 2 m is cut out of one corner.

What is the area of the shape that is left, in square metres?

Answer: ___

(3)

---

15 Point B is at (6, 4). It is reflected in the mirror line x = 5.

What are the coordinates of the image of B?

Answer: (___, ___)

(2)

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16 Points C and D are at (1, 3) and (1, 6). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

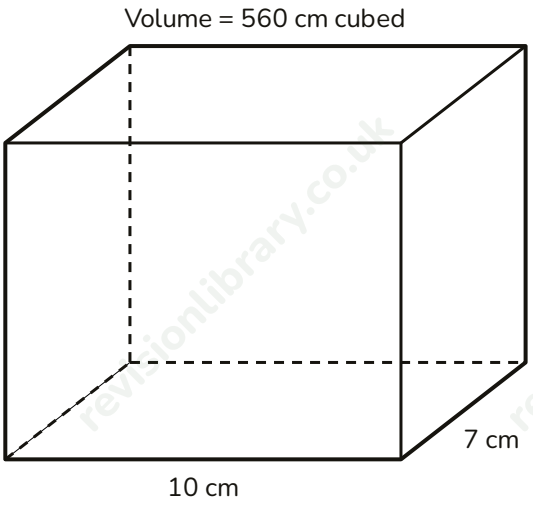
(1)

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17 A cuboid has a volume of 560 cm cubed. Its length is 10 cm and its width is 7 cm.

What is its height?

Answer: ___ cm



(2)

---

18 Use 1 inch = 2.5 cm.

A strip of card is 8 inches long. How long is it in cm?

Answer: ___ cm

(2)

---

19 A small storage box measures 30 cm by 20 cm by 15 cm. Find its volume in cubic centimetres.

(2)

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20 A line joins (5, 8) and (9, 8).

What are the coordinates of the midpoint of the line?

Answer: (___, ___)

(2)

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21 Use 1 foot = 30 cm.

A strip of card is 120 cm long. How long is it in feet?

Answer: ___ feet

(1)

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22 Angles on a straight line add up to 180 degrees. Two angles on a straight line are 26 degrees and 101 degrees. A third angle fills the rest of the line.

What is the third angle?

Answer: ___ degrees

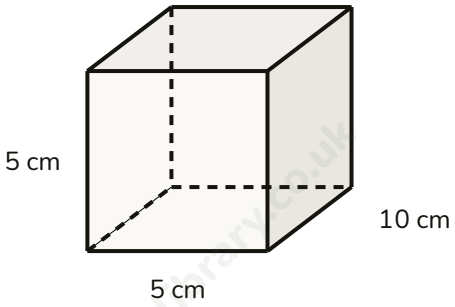
(2)

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23 A cuboid measures 5 cm by 10 cm by 5 cm.

What is its volume in cubic centimetres?

Answer: ___ cm cubed



(2)

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24 Isla buys 4 lollies at £3.22 each and 2 notebooks at £2.32 each. Isla pays with £20.

How much change does Isla get?

Answer: £___

(2)

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25 Oscar buys 4 rulers at £2.31 each and 3 kites at 66p each. Oscar pays with £15.

How much change does Oscar get?

Answer: £___

(2)

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Mark scheme · 8.7 Reasoning: Measures and Geometry: Test Pack

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

Question 1

24.5 m cao — B1

Answer: **24.5**

Question 2

14.48 seen — M1

£2.56 cao — A1

Answer: **£2.56**

Question 3

301 seen — M1

59 degrees cao — A1

Answer: **59 degrees**

Question 4

65 square metres cao — B1

Answer: **65 square metres**

Question 5

finds both areas — M1

subtracts — M1

32 square metres cao — A1

Answer: **32 square metres**

Question 6

Use area formula 1/2 x base x height with 24 x 10 — M1

120 m² cao — B1

Answer: **120**

Question 7

Round each to nearest metre: 3, 3, 4 or equivalent rounding seen — M1

10 m cao — B1

Answer: **10 m**

Question 8

States that both shapes use six 1 cm² squares so area equal — B1

Gives explanation that area counts number of unit squares so both are 6 cm² oe — B1

Answer: **Yes. Both have area 6 cm²**

Question 9

Partition perimeter: 2 x (length + 6.3) = 28.6 with correct rearrangement — M1

8.0 m cao — B1

Answer: **8.0**

Question 10

39 degrees cao — B1

Answer: **39 degrees**

Question 11

48 square metres cao — B1

Answer: **48 square metres**

Question 12

8 cm cao — B1

Answer: **8 cm**

Question 13

132 degrees cao — B1

Answer: **132 degrees**

Question 14

finds both areas — M1

subtracts — M1

29 square metres cao — A1

Answer: **29 square metres**

Question 15

same distance from the mirror line — M1

(4, 4) cao — A1

Answer: **(4, 4)**

Question 16

3 units cao — B1

Answer: **3 units**

Question 17

10 x 7 = 70 seen — M1

8 cm cao — A1

Answer: **8 cm**

Question 18

multiplies by the conversion — M1

20 cm cao — A1

Answer: **20 cm**

Question 19

Multiply 30 x 20 x 15 or equivalent method — M1

9000 cm³ cao — B1

Answer: **9000**

Question 20

halves the horizontal distance — M1

(7, 8) cao — A1

Answer: **(7, 8)**

Question 21

4 cao — B1

Answer: **4**

Question 22

127 seen — M1

53 degrees cao — A1

Answer: **53 degrees**

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Question 23

multiplies two dimensions	**M1**
250 cm cubed cao	**A1**

Answer: **250 cm cubed**

Question 24

12.88 seen	**M1**
£2.48 cao	**A1**

Answer: **£2.48**

Question 25

9.24 seen	**M1**
£3.78 cao	**A1**

Answer: **£3.78**

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