8.1 Reasoning: Measurement and Geometry: 1-hour Pack

STA KS2 National Curriculum Mathematics - STA Reasoning Test Framework · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A coach leaves at 16:27 and arrives at 16:58.

How many minutes does it take?

Answer: ___ minutes

(1)

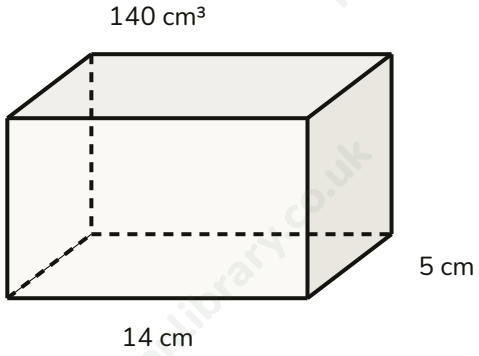
---

2 A cuboid has a volume of 140 cm cubed. Its length is 14 cm and its width is 5 cm.

What is its height?

Answer: ___ cm

Diagram NOT accurately drawn

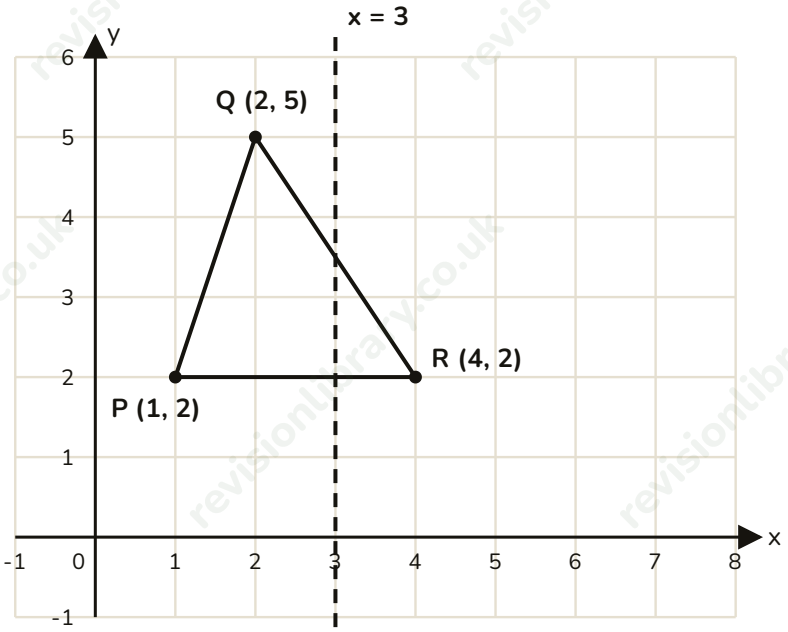


(2)

© Revision Library | revisionlibrary.co.uk

3 Triangle PQR has vertex P at (1, 2). The triangle is reflected in the line x = 3. Find the coordinates of the image of P after the reflection.

Diagram NOT accurately drawn



(2)

© Revision Library | revisionlibrary.co.uk

4 A regular quadrilateral has all sides equal. Each side is 7 cm.

What is its perimeter?

Answer: ___ cm

Diagram NOT accurately drawn



(1)

5 A coach leaves at 09:58 and takes 4 hours 42 minutes.

What time does it finish? Write your answer as a 24-hour clock time.

Answer: ___

(2)

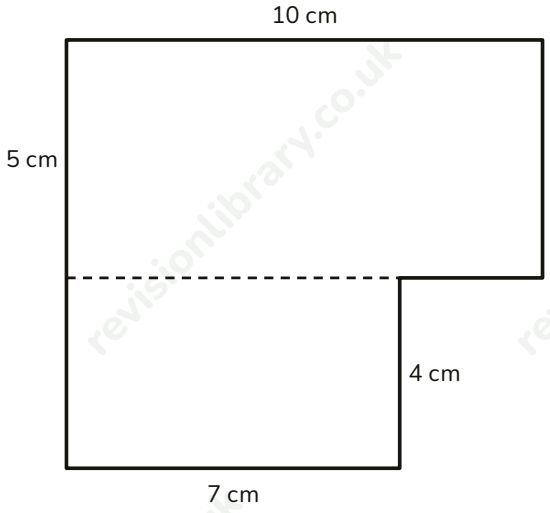
© Revision Library | revisionlibrary.co.uk

6 An L-shape is made from two rectangles joined together. The first rectangle is 10 cm by 5 cm. The second is 7 cm by 4 cm.

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

Answer: ___

Diagram NOT accurately drawn



(2)

7 A rectangle has a perimeter of 62 cm. Its length is 28 cm.

What is its width?

Answer: ___ cm

Diagram NOT accurately drawn



Perimeter = 62 cm

(2)

© Revision Library | revisionlibrary.co.uk

8 Convert 752 cm to m.

Answer: ___ m

(1)

---

9 Willow buys a bag of potatoes weighing 2.2 kg and a bag of carrots weighing 711 g.

What is the total mass in kg?

Answer: ___ kg

(2)

---

10 Four angles meet at a point and add up to 360 degrees. Three of the angles are 42, 118 and 82 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

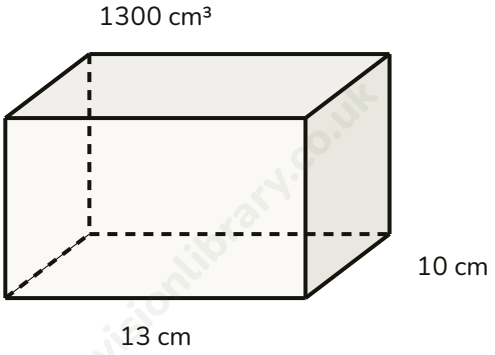
© Revision Library | revisionlibrary.co.uk

11 A cuboid has a volume of 1300 cm cubed. Its length is 13 cm and its width is 10 cm.

What is its height?

Answer: ___ cm

Diagram NOT accurately drawn



(2)

---

12 A ribbon is 6 m long. Ethan cuts it into pieces that are each 25 cm long.

How many pieces does Ethan cut?

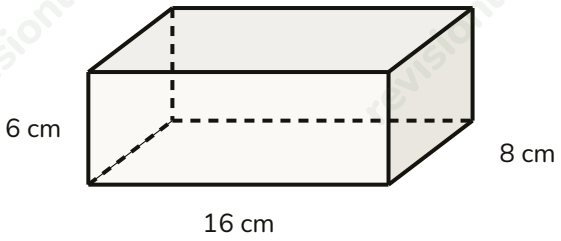
Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

13 A cuboid box has length 16cm, width 8cm and height 6cm.

Diagram NOT accurately drawn



(a) Calculate the volume of the box. **(2)**

.....

(b) The box is filled exactly with cubes of side 2cm, with no gaps. Calculate how many cubes are needed to fill the box completely. **(2)**

.....

14 A map has a scale of 1 : 25000. The distance between two villages on the map is 6.4cm. Calculate the real distance between the villages, in km.

(3)

15 A train leaves Manchester at 09:47 and arrives in Leeds at 10:23.

(a) Calculate how long the journey from Manchester to Leeds takes, in minutes. **(2)**

.....

(b) The train then waits at Leeds for 18 minutes before continuing to York, arriving at 11:52. Calculate the length of the journey from Leeds to York, in minutes. **(3)**

.....

© Revision Library | revisionlibrary.co.uk

16 Four angles meet at a point and add up to 360 degrees. Three of the angles are 44, 69 and 30 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

---

17 A lesson finishes at 21:20 after taking 5 hours 6 minutes.

What time did it start? Write your answer as a 24-hour clock time.

Answer: ___

(2)

---

18 Use 1 foot = 30 cm.

A strip of card is 11 feet long. How long is it in cm?

Answer: ___ cm

(2)

---

19 Which is bigger, 1.5 km or 1,309 m?

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

20 Convert 22.5 cm to mm.

Answer: ___ mm

(1)

---

21 A ribbon is 9 m long. Priya cuts it into pieces that are each 20 cm long.

How many pieces does Priya cut?

Answer: ___

(2)

---

22 A rectangle is 27 cm long and 20 cm wide.

What is its perimeter?

Answer: ___ cm

(1)

---

23 Three corners of a rectangle are (-3, 1), (0, 1) and (0, 3). The sides are parallel to the axes.

What are the coordinates of the fourth corner?

Answer: (___, ___)

(2)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 8.1 Reasoning: Measurement and Geometry: 1-hour Pack

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

Question 1

31 minutes cao	B1

Answer: **31 minutes**

Question 2

14 x 5 = 70 seen	M1
2 cm cao	A1

Answer: **2 cm**

Question 3

finds distance from P to the line x=3 is 2 units (3-1=2)	M1
(5, 2) cao	A1

Answer: **(5, 2)**

Question 4

28 cm cao	B1

Answer: **28 cm**

Question 5

adds hours then minutes	M1
14:40 cao	A1

Answer: **14:40**

Question 6

finds the area of each rectangle	M1
78 square centimetres cao	A1

Answer: **78 square centimetres**

Question 7

62 - 56 = 6 seen	M1
3 cm cao	A1

Answer: **3 cm**

Question 8

7.52 m cao	B1

Answer: **7.52 m**

Question 9

711 g = 0.711 kg seen	M1
2.911 kg cao	A1

Answer: **2.911 kg**

Question 10

242 seen	M1
118 degrees cao	A1

Answer: **118 degrees**

Question 11

13 x 10 = 130 seen	M1
10 cm cao	A1

Answer: **10 cm**

Question 12

6 m = 600 cm seen	M1
24 cao	A1

Answer: **24**

Question 13

(a) 16 x 8 x 6 oe	M1
(a) 768 cm^3 cao	A1
(a) Answer: **768 cm^3**	
(b) (16/2) x (8/2) x (6/2) oe, or 768 / 8	M1
(b) 96 cao	A1
(b) Answer: **96 cubes**	

Question 14

6.4 x 25000 = 160000 oe	M1
converts 160000cm to km (divides by 100000)	M1
1.6km cao	A1

Answer: **1.6km**

Question 15

(a) valid method, e.g. 9:47 to 10:00 = 13 min, 10:00 to 10:23 = 23 min	M1
(a) 36 minutes cao	A1
(a) Answer: **36 minutes**	
(b) 10:23 + 18 minutes = 10:41 (departure time from Leeds)	M1
(b) valid method to find duration from 10:41 to 11:52	M1
(b) 71 minutes cao	A1
(b) Answer: **71 minutes**	

Question 16

143 seen	M1
217 degrees cao	A1

Answer: **217 degrees**

Question 17

subtracts hours then minutes	M1
16:14 cao	A1

Answer: **16:14**

Question 18

multiplies by the conversion	M1
330 cm cao	A1

Answer: **330 cm**

Question 19

converts to the same unit	M1
1.5 km cao	A1

Answer: **1.5 km**

Question 20

225 mm cao	B1

Answer: **225 mm**

© Revision Library | revisionlibrary.co.uk

Question 21

9 m = 900 cm seen	**M1**
45 cao	**A1**

Answer: **45**

Question 22

94 cm cao	**B1**

Answer: **94 cm**

Question 23

one coordinate correct	**M1**
(-3, 3) cao	**A1**

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

© Revision Library | revisionlibrary.co.uk