testbase

Year 6:Measurement.

Name: _____

Class: _____

Date: _____

Time:

Marks: **31 marks**

Comments:

1 Ally and Jack buy some stickers.

Pack of 12 stickers
£10.49

12 stickers
99p each

Ally buys a pack of 12 stickers for £10.49

Jack buys 12 single stickers for 99p each.

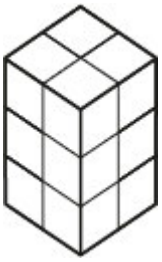
How much more does Jack pay than Ally?

Show your method

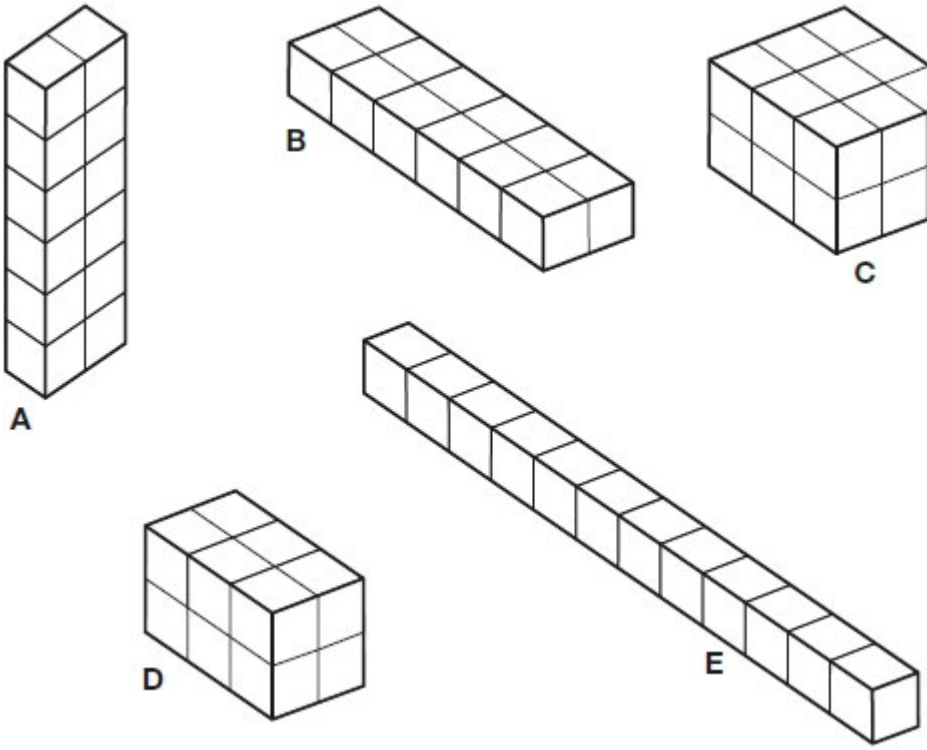
£

2 marks

2 Emma makes a cuboid using 12 cubes.



Write the letter of the cuboid that has a **different** volume from Emma's cuboid.



_____

1 mark

3 Freddie is half as tall as his mother.

Freddie is one metre shorter than his father.

Freddie's father is 180 centimetres tall.

How many centimetres tall is Freddie's mother?

cm

1 mark

4 Here are four lengths.

55 mm	5 cm	0.55 m	5.5 mm

Write the lengths in order, starting with the shortest.

shortest

1 mark

5 Here are four masses.

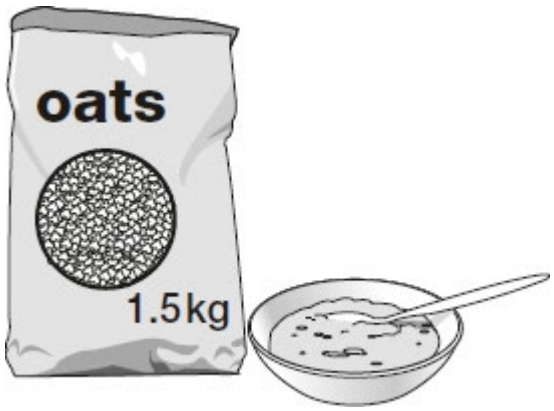
2 kilograms	1 tonne	800 grams	$\frac{1}{2}$ kilogram

Write the masses in order, starting with the lightest.

lightest			

1 mark

6 A packet contains 1.5 kg of oats.



Every day Maria uses 50 g of oats to make porridge.

How many days does the packet of oats last?

Show your method

days

2 marks

7 Complete each sentence using a number **from the list below**.

120 240 600 1,440 3,600 6,000

There are ☐ seconds in an hour.

1 mark

There are ☐ minutes in a day.

1 mark

8 The table below shows five journeys a taxi driver made one day.

journey number	start time	number of passengers	distance	cost
1	9:15 am	2	8 km	£7.50
2	9:40 am	1	12 km	£9.90
3	10:30 am	3	7 km	£7.60
4	10:50 am	1	21 km	£15.50
5	12:10 pm	4	15 km	£12.00

On journey number 5, the passengers shared the cost equally.

How much did **each** passenger pay?

£ ☐

1 mark

How many **passengers** made journeys of more than 10 km?

☐ passengers

1 mark

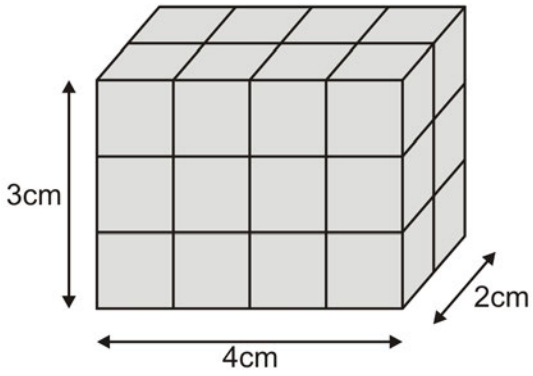
The 12 km journey took 40 minutes.

What time did the taxi finish its journey?

am

1 mark

9 This cuboid is made from centimetre cubes.



It is 4 centimetres by 3 centimetres by 2 centimetres.

What is the **volume** of the cuboid?

cm

1 mark

Another cuboid is made from centimere cubes.

It has a volume of **30 cubic centimetres**.

What could the **length**, **height** and **width** be?

length ____ cm^3

height ____ cm^3

width ____ cm^3

1 mark

10 Chen and Megan each have a parcel.

Chen's parcel weighs 1 $\frac{1}{2}$ kg.

Megan's parcel weighs 1.2 kg

How many more **grams** does Chen's parcel weigh than Megan's parcel?

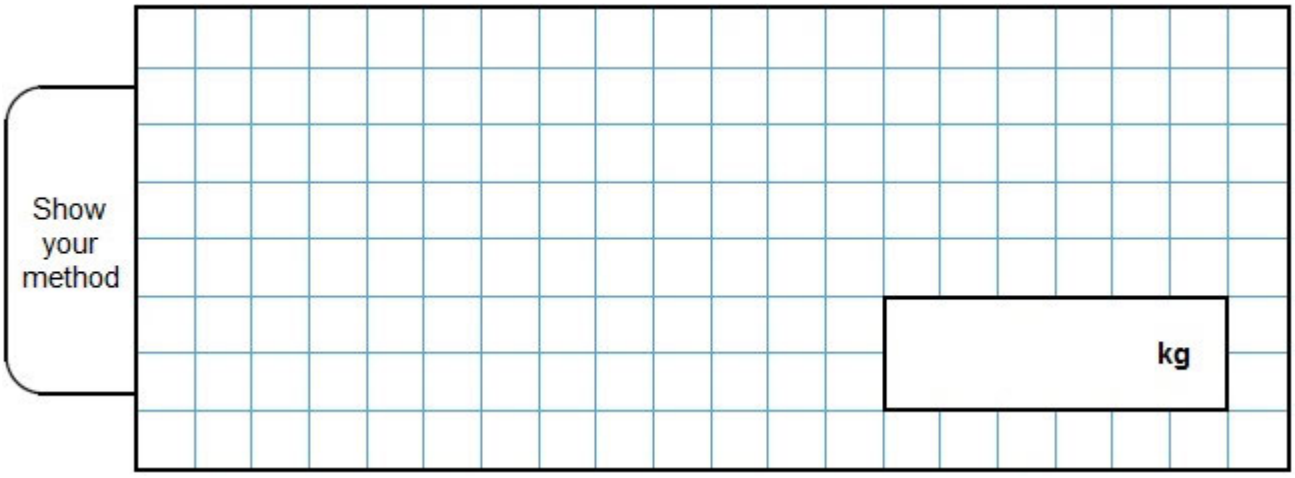
Show your method

____ g

2 marks

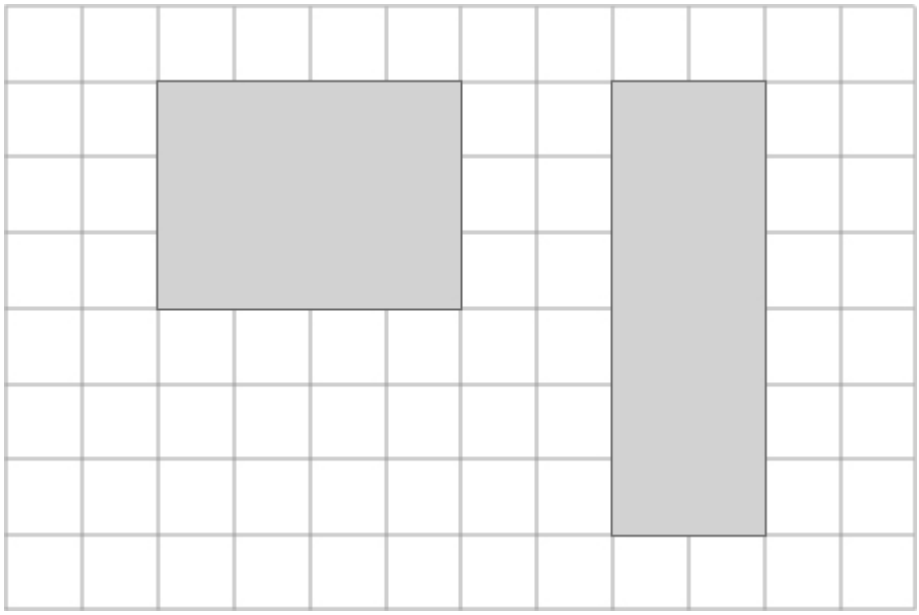
11 Jamie takes three parcels to be posted.
One parcel has a mass of 750 g
Another weighs 2.8 kg

The total mass of the three parcels is 5.13 kg
What is the mass of the third parcel?



2 marks

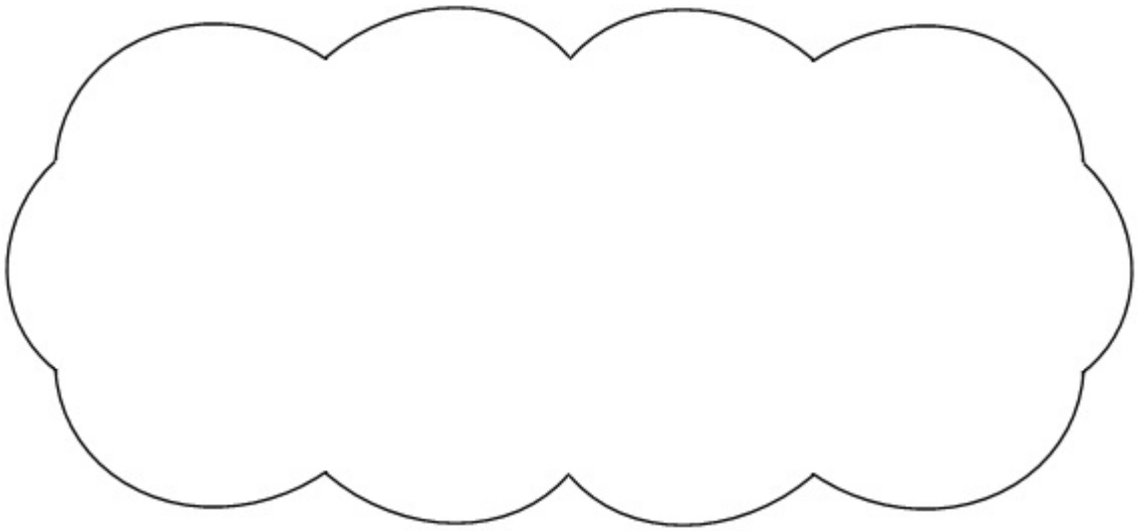
12 Look at the shaded rectangles drawn on a centimetre square grid.



Sam says,

"The two rectangles have the same area as each other and the same perimeter as each other"

Is Sam correct?
Explain how you know.



1 mark

13 Calculate $\frac{3}{4}$ of **£15**

£

1 mark

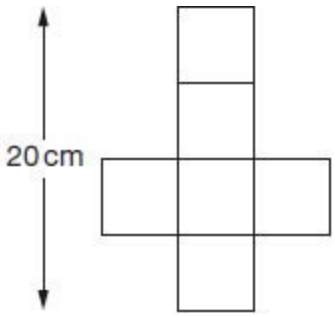
14 Annie swims on average 0.87 km in 30 minutes.
If she continues at the same speed, how far will she swim in 2 hours, rounded to one decimal place?

Circle your answer.

3.2 km 3.3 km 3.4 km 3.5 km 3.6 km

1 mark

15 This is the net of a cube.



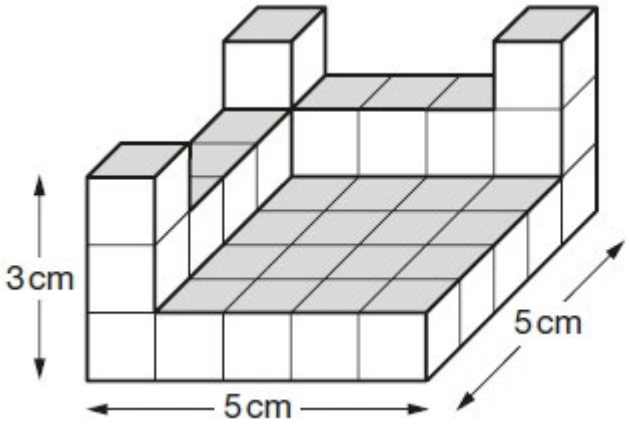
Not actual size

What is the **volume** of the cube?

cm^3

1 mark

16 This shape is made of wooden centimetre cubes.

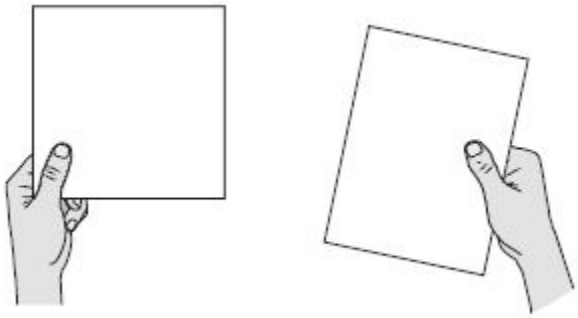


Not actual size

How many **more** centimetre cubes are needed to make it into a solid cuboid 3 cm tall, 5 cm long and 5 cm wide?

1 mark

17



A square tile measures 20 cm by 20 cm.

A rectangular tile is 3 cm **longer** and 2 cm **narrower** than the square tile.

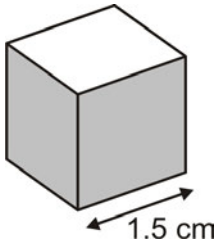
What is the **difference in area** between the two tiles?

Show your method

cm²

3 marks

18 Amit has some small cubes.



The edge of each cube is **1.5 centimetres.**

He makes a larger cube out of the small cubes.

The **volume** of this larger cube is **216 cm^3.**

How many small cubes does he use?

Show your method

2 mark

19

How many **days** old will the baby be when she has lived for **one million seconds**?

Show your method

days

2 marks

Mark schemes

1 Award **TWO** marks for the correct answer of £1.39

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 12 × 99p = £11.88
  £11.88 − £10.49

*Accept for **ONE** mark an answer of £139 **OR** £139p as evidence of an appropriate method.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

2 C

Accept 18.

[1]

3 160

U1

[1]

4 One mark for all lengths in the correct order.

5.5 mm	5 cm	55 mm	0.55 m

[1]

5 Masses in order, as shown:

$\frac{1}{2}$ kg	800 g	2 kg	1 tonne

Accept answers with missing or incorrect units.

[1]

6 Award **TWO** marks for the correct answer of 30.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 1.5 kg = 1,500 g
  1,500 ÷ 50

*Answer need not be obtained for the award of **ONE** mark.*

*Units must be converted correctly for the award of **ONE** mark.*

Up to 2m

[2]

7 (a) 3,600

1

(b) 1,440

1

*Misreads and transcription errors are **not** allowed.*

[2]

8 (a) £3.00

1

(b) 6

1

(c) 10:20 am

The answer is a specific time.

1

[3]

9 (a) 24

1

(b) Any three numbers which multiply to make 30 (in any order), eg

length = 3

height = 5

width = 2

Other correct dimensions are:
30, 1, 1
15, 2, 1
10, 3, 1
6, 5, 1

Accept 7½, 2, 2

1

[2]

10 Award **TWO** marks for the correct answer of 300

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg

$1\frac{1}{2}$ kg = 1500 g

1.2 kg = 1200 g

1500 g – 1200 g = wrong answer

*Answer must be in grams for the award of **TWO** marks.*

***Do not** accept 0.3 kg.*

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

[2]

11 Award **TWO** marks for the correct answer of 1.58 kilograms

If the answer is incorrect award **ONE** mark for evidence of appropriate working, e.g.

750 g = 0.75 kg

2.8 + 0.75 = 3.55

5.13 – 3.55 = $\frac{7}{20}$

[2]

12 Explanation that recognises that the areas are the same BUT the perimeters are different, e.g.

- Sam is half right because the rectangles both contain the same number of squares, so they have the same area, but the perimeters are different – one is 14 cm and the other is 16 cm.
- The areas are both 12 cm^2, but the perimeters are 2 cm different.
- Sam is wrong because the perimeters are different. One has a perimeter of 14 cm and the other 16 cm.

[1]

13 £11.25

[1]

14 3.5 km

[1]

15 125

[1]

16 38

[1]

17 Award **THREE** marks for the correct answer of 14

If the answer is incorrect, award **TWO** marks for:

- sight of 414 as evidence of 23 × 18 completed correctly

OR

- evidence of an appropriate method with no more than one arithmetic error, e.g.

  20 × 20 = 400

  $$\begin{array}{r} 23 \\ \times\ 18 \\ \hline 230 \\ 184 \\ \hline 314 \end{array}$$ *(error)*

  400 − 314 = 86

Award **ONE** mark for evidence of an appropriate method.

*Answer need not be obtained for the award of **ONE** mark.*

A misread of a number may affect the award of marks. No marks are awarded if there is more than one misread or if the mathematics is simplified.

***TWO** marks will be awarded for an appropriate method using the misread number followed through correctly to a final answer.*

***ONE** mark will be awarded for evidence of an appropriate method using the misread number followed through correctly with no more than one arithmetic error.*

Up to 3m

[3]

18 Award **TWO** marks for the correct answer of 64

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

216 = 6 × 6 × 6
6 ÷ 1.5 = 4
number of cubes = 4 × 4 × 4
OR 1.5 × 1.5 × 1.5 = 3.375
number of cubes = 216 ÷ 3.375

Calculation need not be completed for the award of the mark.

Up to 2

[2]

19 11 **OR** 12 **OR** any value between 11.5 and 11.6 inclusive

2

or

Any value between 277 and 288 inclusive seen *(value takes account of seconds in a minute and minutes in an hour)*

OR

Any value between 694 and 695 inclusive seen *(value takes account of hours in a day and either seconds in a minute or minutes in an hour)*

OR

Shows or implies a complete, correct method, eg:

- 1 000 000 ÷ 60 ÷ 60 ÷ 24
- 1 000 000 ÷ 86 400
- 16 666 ÷ 60 ÷ 24

Do not accept *place value errors in the value taken for one million in an otherwise correct method, eg:*

100 000 ÷ 60 ÷ 60 ÷ 24

1

[2]