

National curriculum tests

Key stage 2

Mathematics

Paper 3: reasoning

First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
School name						

SAMPLE BOOKLET

Published July 2015

This sample test indicates how the national curriculum will be assessed from 2016.
Further information is available on GOV.UK at www.gov.uk/sta.



PUPIL ID NUMBER



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Instructions

You **may not** use a calculator to answer any questions in this test.

Questions and answers

You have **40 minutes** to complete this test.

Follow the instructions for each question.

Work as quickly and as carefully as you can.

If you need to do working out, you can use the space around the question.

Do not write over any barcodes.

Some questions have a method box like this:

Show
your
method

For these questions you may get a mark for showing your method.

If you cannot do one of the questions, **go on to the next one**.

You can come back to it later, if you have time.

If you finish before the end, **go back and check your work**.

Marks

The number under each line at the side of the page tells you the maximum number of marks for each question.



1

Here is a diagram for sorting numbers.

Write **one number** in each box.

One is done for you.

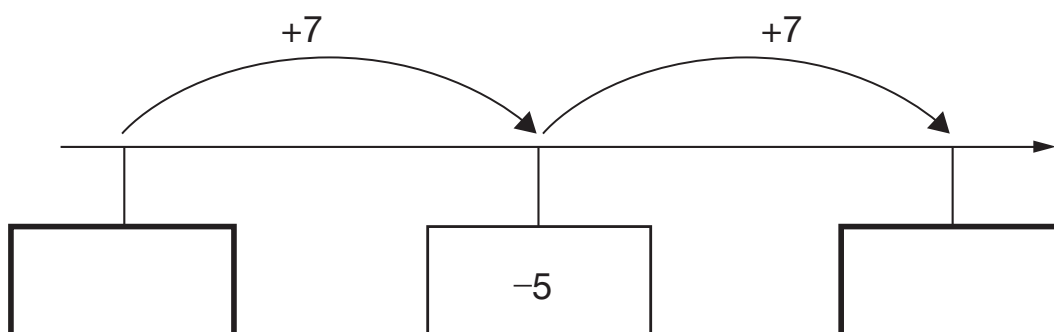
	multiple of 5	not a multiple of 5
multiple of 3	30	
not a multiple of 3		

2 marks

2

Here is part of a number line.

Write the missing numbers in the boxes.



2 marks



3

Look at this number.

23,451.96

Write the **digit** that is in the hundreds place.

1 mark

Write the **digit** that is in the hundredths place.

1 mark

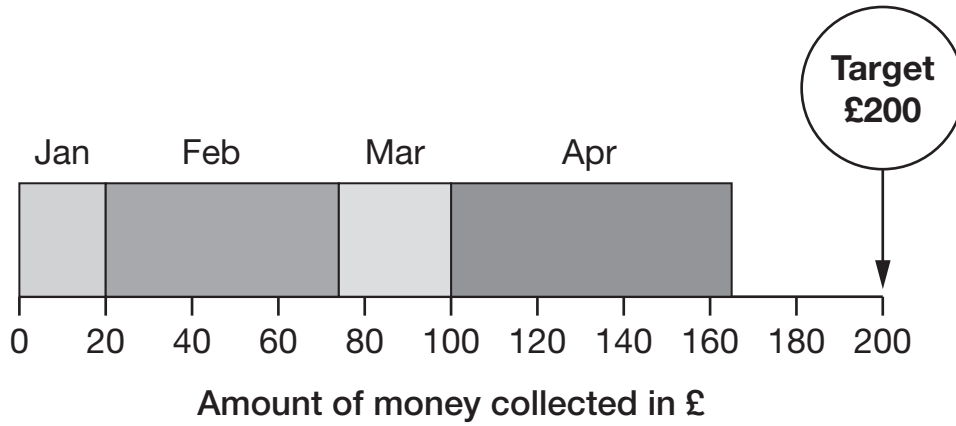


S 0 0 0 7 0 A 0 5 2 4

4

A school plans to collect £200 between January and May.

This chart shows how much they collected by the end of April.



Write the name of **each** month where they collected more than £50

1 mark

How much money did they collect in February and March **altogether**?

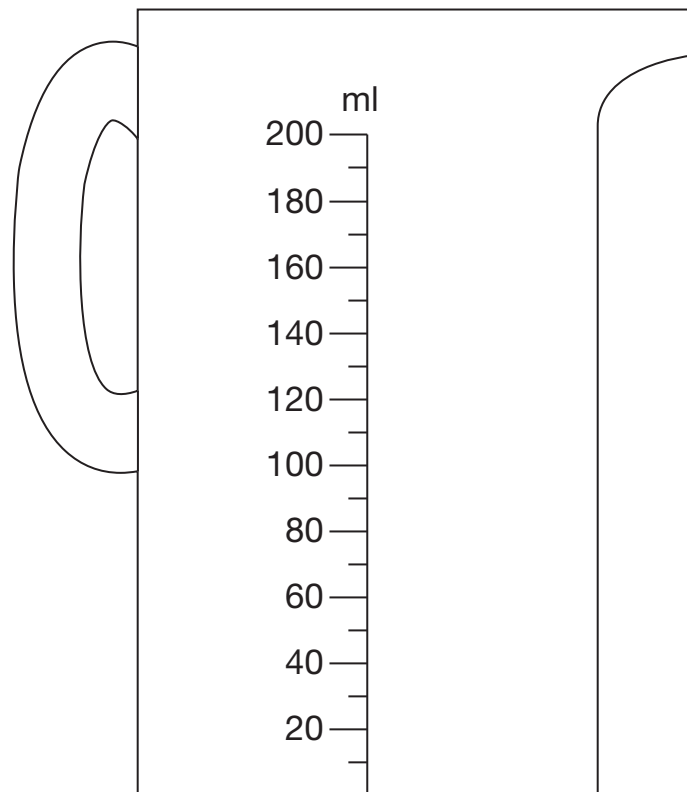
£

1 mark

5

Chen pours 165 millilitres of milk into a measuring jug.

Draw an arrow on the jug to show the level of the milk.



1 mark



S 0 0 0 7 0 A 0 7 2 4

6

Here are six cards.

 $\times 10$ $\times 100$ $\times 1000$ $\div 10$ $\div 100$ $\div 1000$

Use a card to complete each calculation.

$5.3 \boxed{} = 0.53$

$5.3 \boxed{} = 5300$

$5.3 \boxed{} = 0.053$

2 marks



7Write the number 53,148 in **words**.

1 mark

S 0 0 0 7 0 A 0 9 2 4

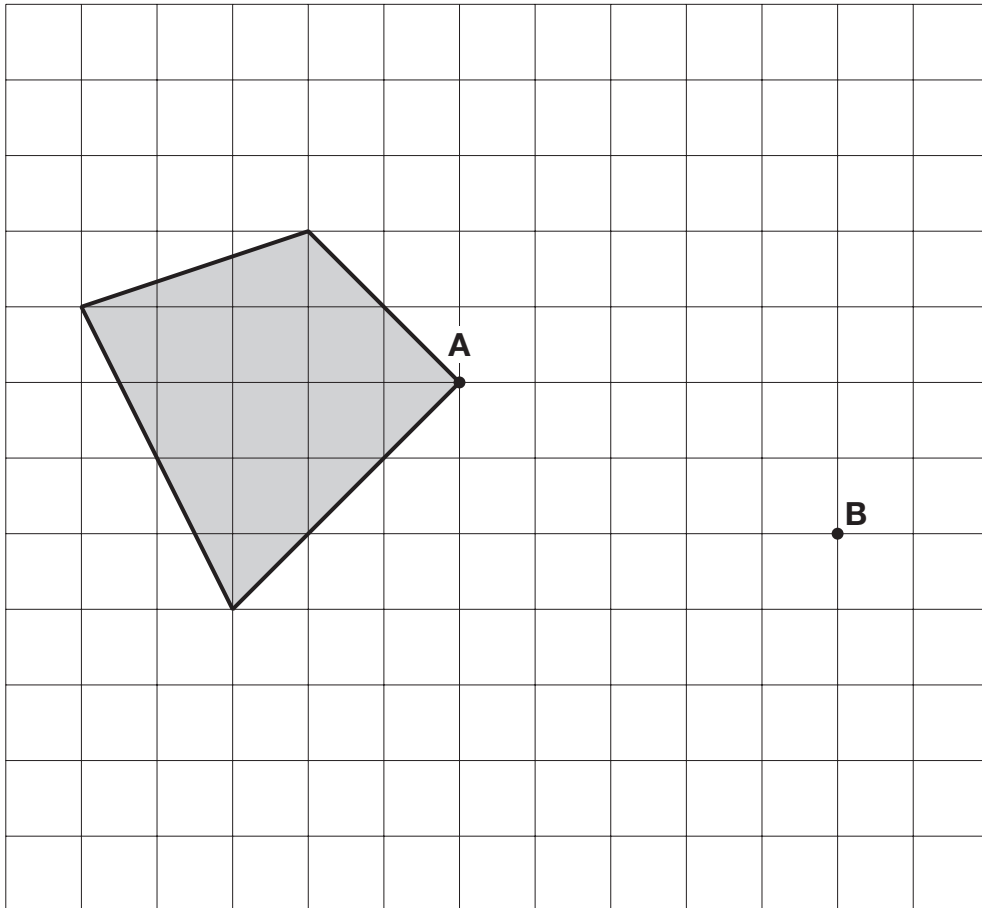
8

Here is a shaded shape on a grid.

The shape is translated so that point **A** moves to point **B**.

Draw the shape in its new position.

Use a ruler.



2 marks



The mass of a 5p coin is half the mass of a 10p coin.

What is the mass of these six coins **altogether**?



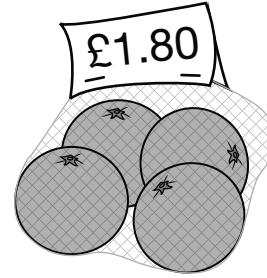
2 marks



10

A bag of 5 lemons costs £1

A bag of 4 oranges costs £1.80



How much **more** does one orange cost than one lemon?

Show
your
method

A blank sheet of graph paper with a light blue grid pattern. The grid consists of small squares. On the right side of the page, there is a rectangular box with a thick black border, which is currently empty. This box is likely intended for a student's name or other identifying information.

2 marks



11

Write the four missing digits to make this **addition** correct.

$$\begin{array}{rcccc} & \boxed{} & 6 & \boxed{} & 8 \\ + & 3 & \boxed{} & 9 & \boxed{} \\ \hline 9 & 0 & 1 & 9 & \end{array}$$

2 marks



S 0 0 0 7 0 A 1 3 2 4

12

Two decimal numbers add together to equal 1

One of the numbers is 0.007

What is the other number?

1 mark

13

Here are four fraction cards.

$$\frac{3}{4}$$

$$\frac{5}{8}$$

$$\frac{6}{12}$$

$$\frac{7}{16}$$

Use any **three** of the cards to make this correct.

$$\boxed{} < \boxed{} < \boxed{}$$

1 mark

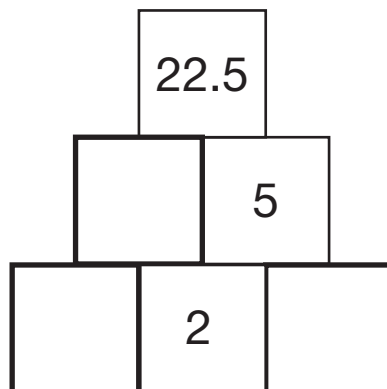


14

Here is a number pyramid.

The number in a box is the **product** of the two numbers below it.

Write the missing numbers.



2 marks



15

Join dots on the grid to make a quadrilateral that has **3 acute** angles.



1 mark

16

Lara chooses a number less than 100

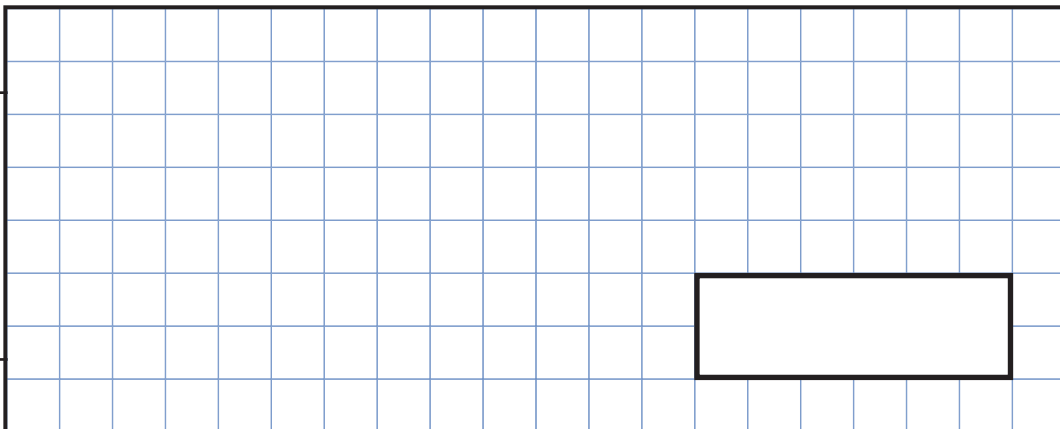
She divides it by 3 and then subtracts 11

She then divides this result by 2

Her answer is 10.5

What was the number she started with?

Show
your
method

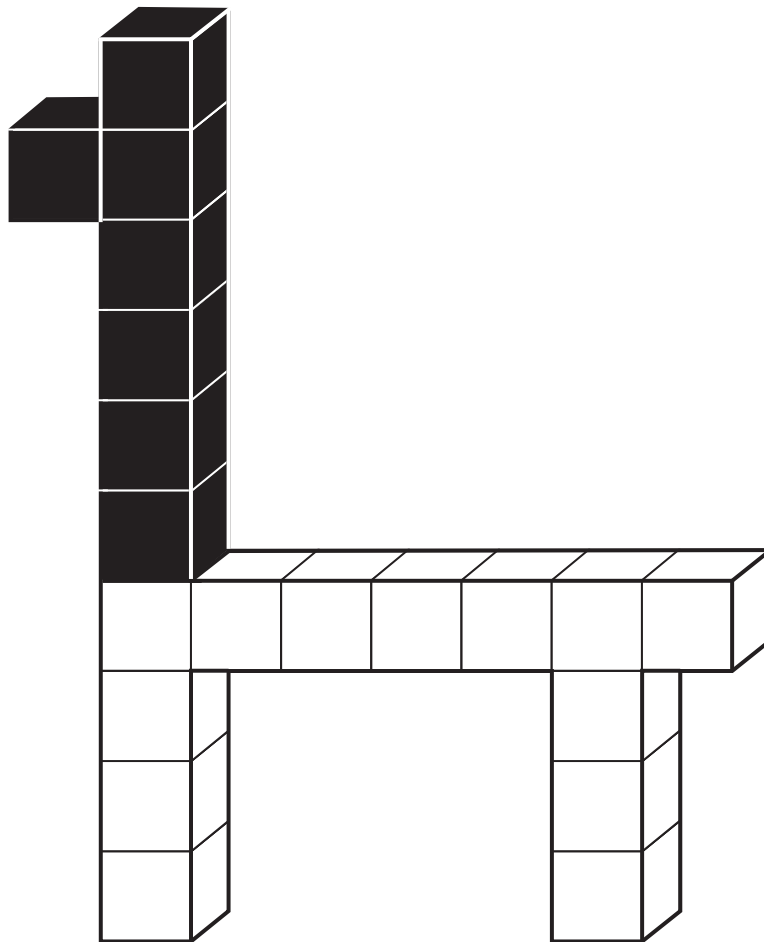


2 marks



17

This model is made with 20 cubes.



What **percentage** of the cubes in the model is black?

 %

1 mark



cream	400 ml
milk	500 ml
egg yolks	4
chocolate	120 g
sugar	100 g



How much **chocolate** should he use?

Show
your
method

g

2 marks



19

The area of a rugby pitch is 6,108 square metres.

A football pitch measures 112 metres long and 82 metres wide.

How much larger is the area of the football pitch than the area of the rugby pitch?

Show
your
method

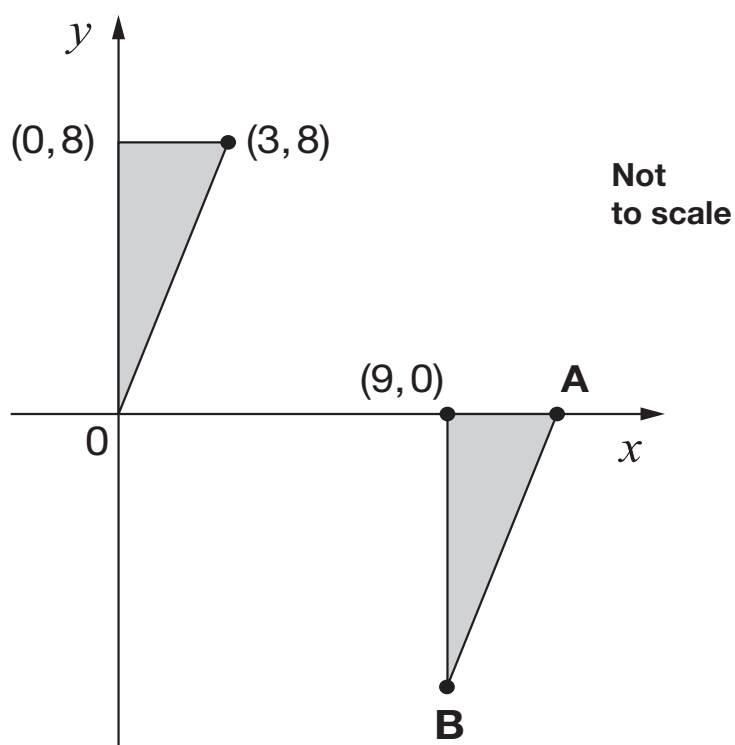
square metres

3 marks



20

Here are two **identical** shaded triangles on coordinate axes.



Write the coordinates of points A and B.

A = (,)

B = (,)

2 marks



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