

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



S 0 0 0 7 0 A 0 1 2 4

[BLANK PAGE]

Please do not write on this page.



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:

[illegible]

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.

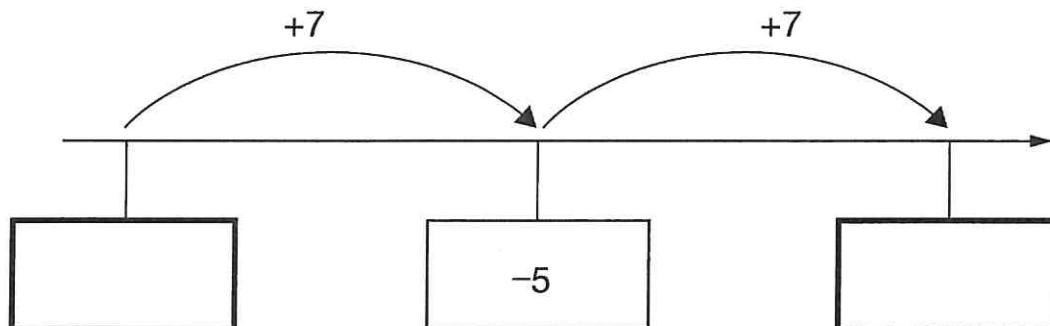
	multiple of 5	not a multiple of 5
multiple of 3	30	
not a multiple of 3		

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

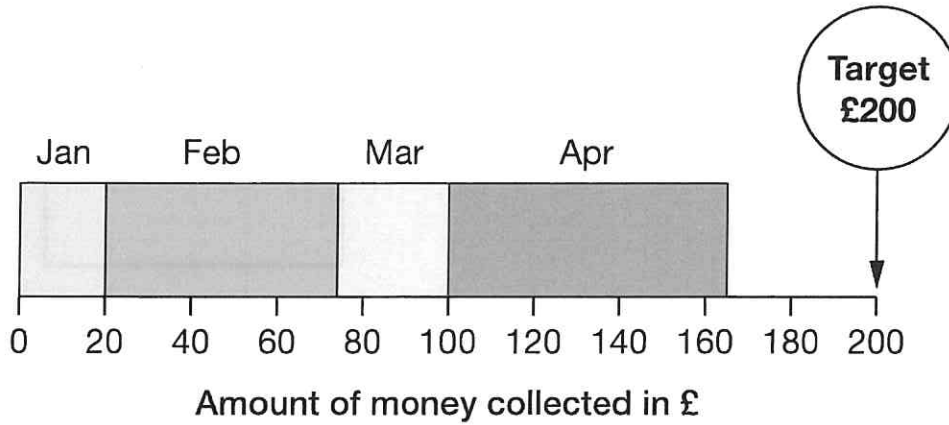


S O O O 7 O A O S 2 4

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**?

£

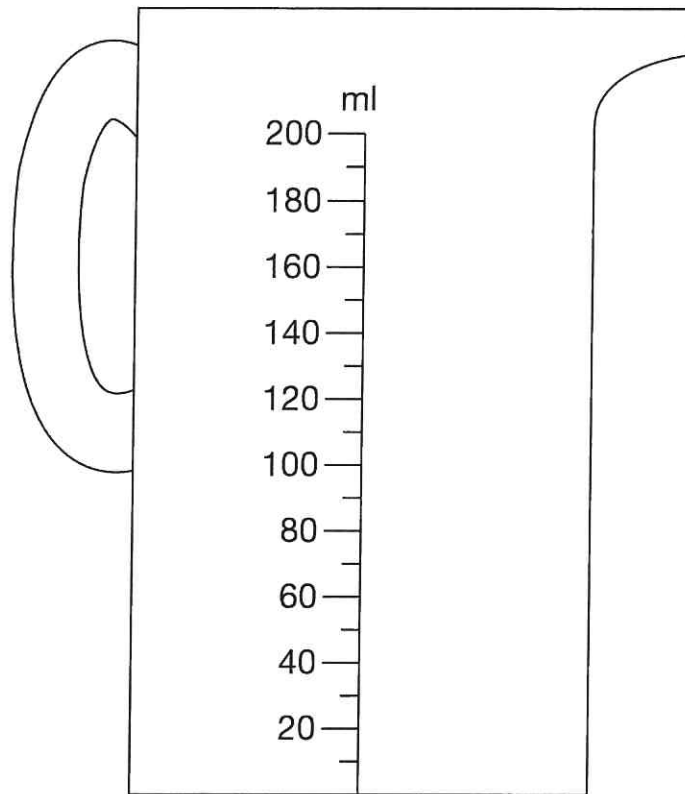
1 mark



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.

$5.3 \square = 0.53$

$5.3 \square = 5300$

$5.3 \square = 0.053$

2 marks



7

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

1 mark



S 0 0 0 7 0 A 0 9 2 4

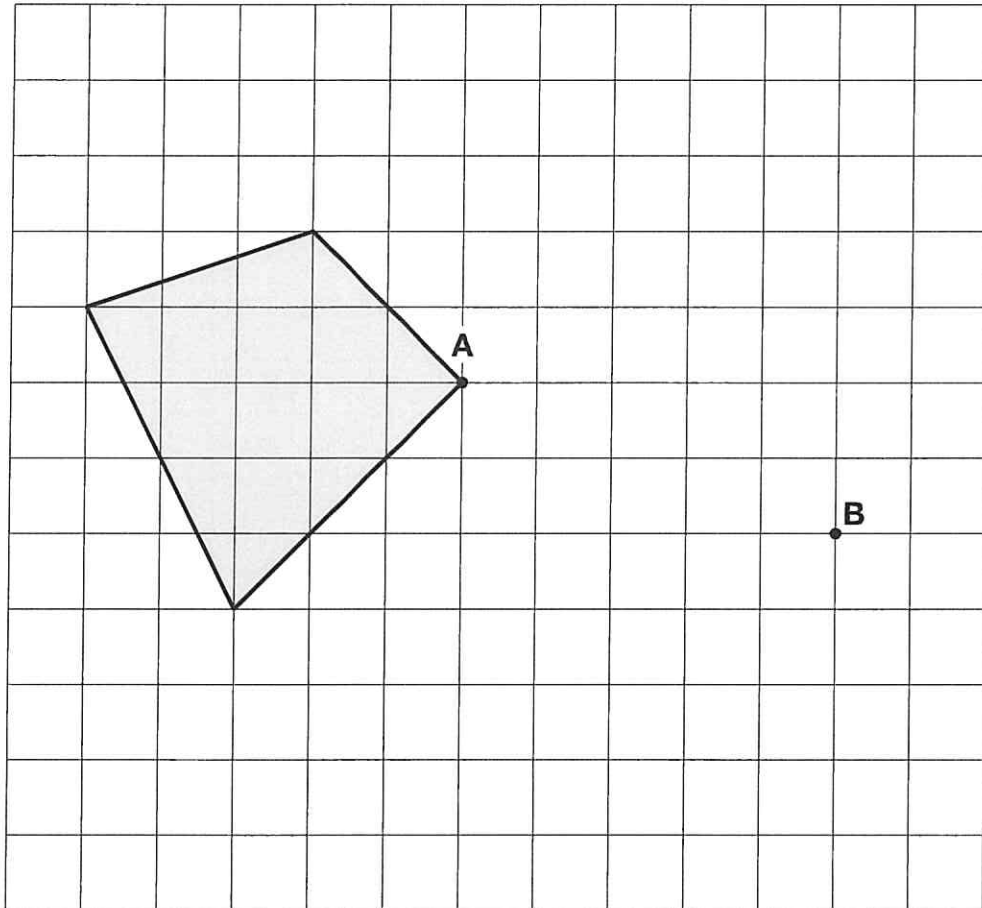
8

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



9

The mass of a 10p coin is 6.5g.

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

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



Show
your
method

g

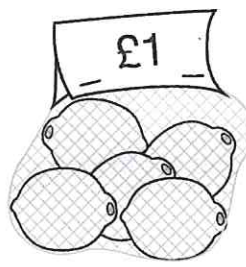
2 marks



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 grid pattern. A rectangular box is drawn on the right side of the page.

2 marks



11

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

	6		8
+	3		9
9	0	1	9

2 marks



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

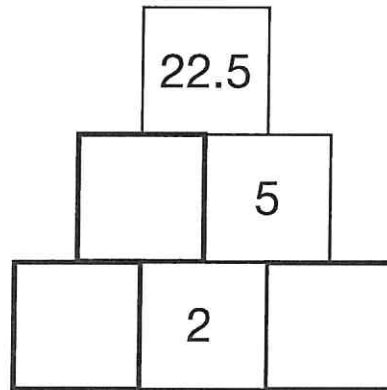


14

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

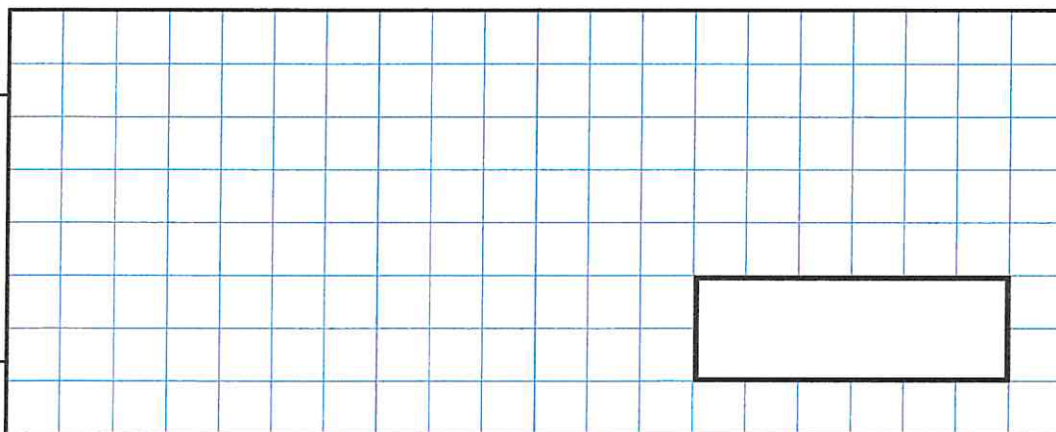
She divides it by 3 and then subtracts 11

She then divides this result by 2

Her answer is 10.5

What was the number she started with?

Show
your
method

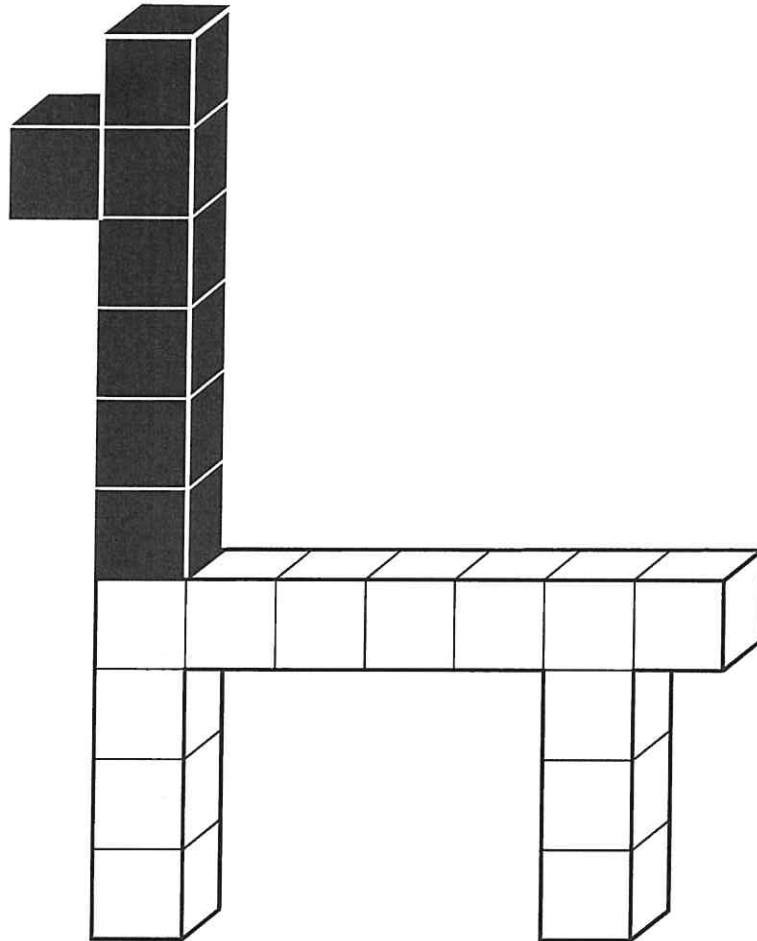


2 marks



17

This model is made with 20 cubes.



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

	%
--	---

1 mark



18

Here are the ingredients for chocolate ice cream.

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



Stefan has only 300ml of cream to make chocolate ice cream.

How much **chocolate** should he use?

Show
your
method

[illegible]

2 marks



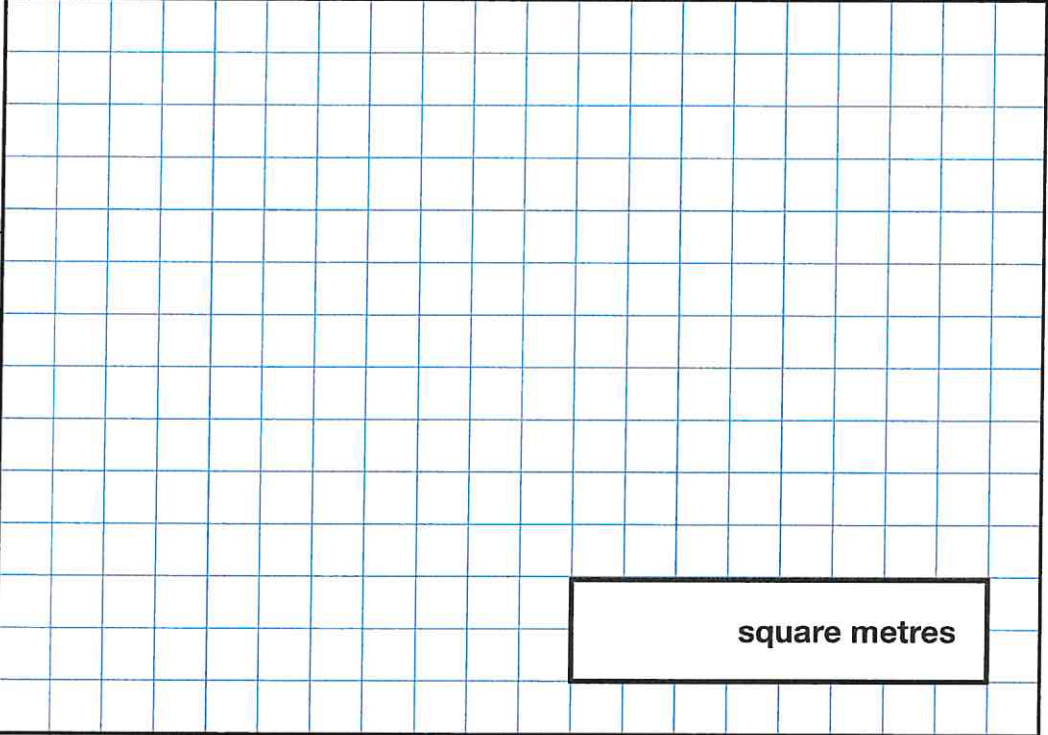
19

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

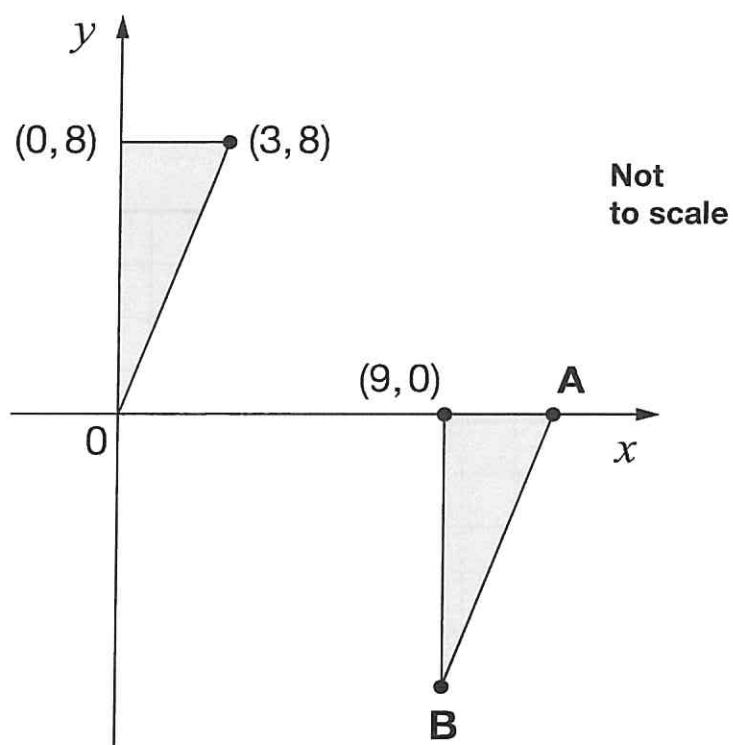


square metres

3 marks



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



Write the coordinates of points A and B.

A = (,)

B = (,)

2 marks



[END OF TEST]

Please do not write on this page.



S O O O 7 0 A 2 1 2 4

[BLANK PAGE]

Please do not write on this page.



[BLANK PAGE]

Please do not write on this page.



S 0 0 0 7 0 A 2 3 2 4



Standards
& Testing
Agency

Sample key stage 2 mathematics paper 3: reasoning
Electronic PDF version product code: STA/15/7324/e ISBN: 978-1-78315-742-6

For more copies

Additional printed copies of this booklet are not available. It can be downloaded from www.gov.uk/government/publications.

© Crown copyright and Crown information 2015

Re-use of Crown copyright and Crown information in test materials

Subject to the exceptions listed below, the test materials on this website are Crown copyright or Crown information and you may re-use them (not including logos) free of charge in any format or medium in accordance with the terms of the Open Government Licence v3.0 which can be found on the National Archives website and accessed via the following link: www.nationalarchives.gov.uk/doc/open-government-licence. When you use this information under the Open Government Licence v3.0, you should include the following attribution: 'Contains public sector information licensed under the Open Government Licence v3.0' and where possible provide a link to the licence.



Exceptions – third-party copyright content in test materials

You must obtain permission from the relevant copyright owners, as listed in the '2016 sample tests copyright report', for re-use of any third-party copyright content which we have identified in the test materials, as listed below. Alternatively you should remove the unlicensed third-party copyright content and/or replace it with appropriately licensed material.

Third-party content

These materials contain no third-party copyright content.

If you have any queries regarding these test materials contact the national curriculum assessments helpline on 0300 303 3013 or email assessments@education.gov.uk.

