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**National curriculum tests**

**Key stage 2**

**Mathematics**

**Paper 3:** reasoning

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| First name |  |
| Middle name |  |
| Last name |  |
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| 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**.](http://www.gov.uk/sta)

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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**.

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**Marks**

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

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Here is a diagram for sorting numbers.

**1**

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

Here is part of a number line.

**2**

Write the missing numbers in the boxes.

+7 +7

\_5

2 marks

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Look at this number.

**3**

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

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A school plans to collect £200 between January and May. This chart shows how much they collected by the end of April.

**4**

**Target**

**£200**

Jan

Feb

Mar

Apr

### 0 20 40 60 80 100 120 140 160 180 200

Amount of money collected in £

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

**£**

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### Chen pours 165 millilitres of milk into a measuring jug.

**5**

200

180

160

140

120

100

80

60

40

20

ml

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

1 mark

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Here are six cards.

**6**

× 10

× 100

× 1000

÷ 10

÷ 100

÷ 1000

Use a card to complete each calculation.

|  |  |  |  |
| --- | --- | --- | --- |
| 5.3 | = | 0.53 |  |
| 5.3 | = | 5300 |  |
| 5.3 | = | 0.053 |  |
|  |  |  | 2 marks |

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**7**

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

1 mark

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Here is a shaded shape on a grid.

**8**

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

Draw the shape in its new position.

### Use a ruler.

**A**

**B**

1. marks

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The mass of a 10p coin is 6.5g.

**9**

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

2 marks

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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A bag of 5 lemons costs £1

**10**

A bag of 4 oranges costs £1.80

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

Show your method

2 marks

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**11**

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

6

8

# +

3

9

9

0

1

9

2 marks

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Two decimal numbers add together to equal 1 One of the numbers is 0.007

What is the other number?

**12**

1 mark

Here are four fraction cards.

**13**

3

4

5

8

 6

12

 7

16

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

# < <

1 mark

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Here is a number pyramid.

**14**

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

|  |  |  |
| --- | --- | --- |
|  | *22.5* |  |
|  |  | *5* |  |
|  | *2* |  |

Write the missing numbers.

2 marks

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**15**

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

1. mark

Lara chooses a number less than 100 She divides it by 3 and then subtracts 11 She then divides this result by 2

**16**

Her answer is 10.5

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What was the number she started with?

Show your method

1. marks

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This model is made with 20 cubes.

**17**

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

1 mark

**%**

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Here are the ingredients for chocolate ice cream.

**18**



100 g

sugar

120 g

chocolate

4

egg yolks

500 ml

milk

400 ml

cream

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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How much **chocolate** should he use?

Show your method

2 marks

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

**19**

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

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|  |  |  |  |  |  |  |  |  |  |  | **square metres** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
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How much larger is the area of the football pitch than the area of the rugby pitch?

Show your method

3 marks

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

**20**

*y*


## (0, 8)

(3, 8)

#### Not

**to scale**

(9, 0) **A**

0 *x*

**B**

Write the coordinates of points A and B.

# A =

**( , )**

**B =**

**( , )**

2 marks

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#### [END OF TEST]

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