## National curriculum tests

## Key Stage 2

## Mathematics

## Practice Paper 3-1: reasoning

| First name |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Middle name |  |  |  |  |
| Last name |  |  |  |  |
| Date of birth | Day |  | Month |  |
| School name |  |  |  |  |
| DfE number |  |  |  |  |

Time: 40 minutes.
No calculators allowed.
35 marks


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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:

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| Show your Method |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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For these questions, you may get a mark for showing your method.
If you cannot do a question, 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 box at the side of the page tells you the maximum number of marks for each question.

1 The numbers in this sequence decrease by 12 each time

## Write the missing numbers

102 $\square$ 78 66 $\square$ 42

2 mark

Ref: 3C1

2 What time is it in the afternoon $(\checkmark)$.


Ref: 4M4b

3 The thermometers show the temperature at day and night.


What is the difference between the two temperatures?


Yesterday the temperature was 2 degrees lower at night.

What was the temperature at night yesterday?


Ref: 6N5

4 Some boys and girls went swimming.
14 more girls than boys went swimming


Complete the key

How many children went swimming altogether

## Children

Ref: 6A2

5 Order these decimals starting with the smallest.
0.321
0.239
0.402
0.41
0.09

smallest

Ref: 5F8

6 Henry poured 3 piles of sand from a 5 kilogram bag.


Work out the weight of the third pile.


2 marks

Ref: 4F10b


8 Poppy buys 6 bananas.

She pays with a £2 coin.
This is her change.


What is the cost of one banana?



2 marks

Ref: 6C8

9 Here is part of the train timetable from Grimsby to London.

| Grimsby | $09: 34$ | $15: 45$ |
| :--- | :---: | :---: |
| London | $12: 28$ |  |

How long does it take the 09:34 train to get to London



1 mark

The 15:45 train takes the same time to get to London
Complete the timetable


1 mark

10 Poppy made a shape with some blocks.


Write the letter of the shape that has the same volume


Ref: 5M8

## 11 A supermarket ordered 35 boxes of oranges.

Each box contains 4 trays of oranges
Each tray contains 12 oranges.


How many oranges did the supermarket order in total



2 marks

Ref: 6C7a

12 Poppy picks a number less than 20
She divides it by 3 and then adds 5
She then multiplies this result by 2
Her answer is 18.4

## What was the number she started with?

Show
your
Method


13 Look at the 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



1 mark

14 Henry was born in MMXI

What year was that?


Poppy's teacher was born in MCMLXXVI
What year was that?


1 mark


1 mark
to the nearest 100,000

to the nearest 1,000
to the nearest 10



2 mark

16 Two oranges balances 5 bananas.


The mass of an orange is 300 grams
What is the mass of one banana?



2 mark

Ref: 6R4

17 Look at the triangles and parallelograms on a square grid.


One of the shapes has a different area

## Which shape has a different area




1 mark

18 Henry weighed himself in his $5^{\text {th }}$ Birthday . He was 20 Kg

He weighed himself again on his $6^{\text {th }}$ birthday.
He was 24kg
What was the percentage increase in his weight?


Tick two numbers which multiply to make 600, 000


Ref: 6N6

20 David had a bag of rice

He weighed out 2 piles.
The first pile was 1.05 kg
The second pile was 1.45 kg


He has four-fifths of the rice left.

How much rice was in the bag to start with?



2 marks


