Autumn progress check

Year 6

Mathematics

Paper 2: reasoning and problem solving

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

This progress check has been designed by White Rose Maths.
For more information, please visit **whiterosemaths.com**

ISBN 978-1-80478-018-3

White Rose Maths

BLANK PAGE

Please do not write on this page.

Instructions

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

Questions and answers

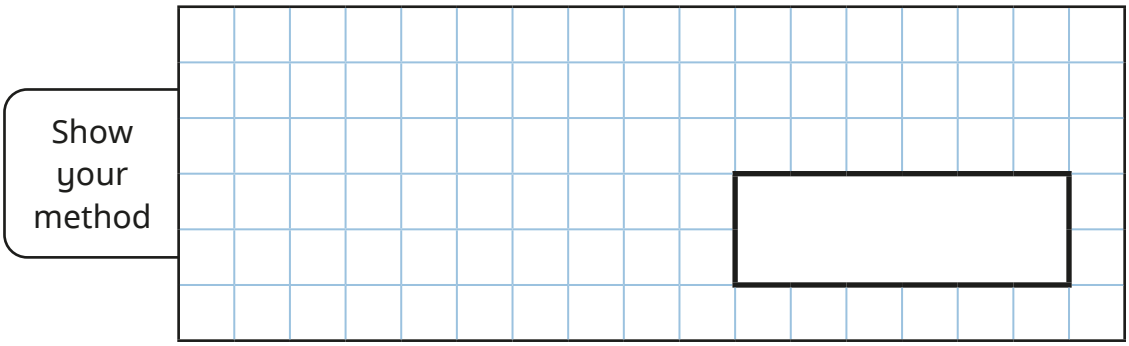
You have **50 minutes** to complete this paper.

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.

Some questions have a method box like this:



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**.

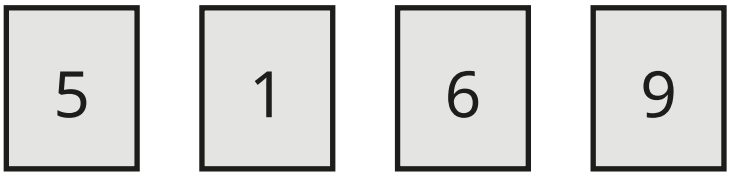
You can come back to it later, if you have time.

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

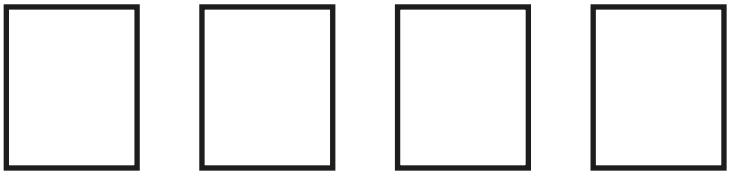
Marks

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

1 Here are four digit cards.



Write the smallest 4-digit even number that can be made using the cards.



1 mark

2 Round 6,892,465 to the nearest million.

1 mark

3 Fill in the missing numbers.

$500 + \square = 2{,}000$

$500 \times \square = 2{,}000$

2 marks

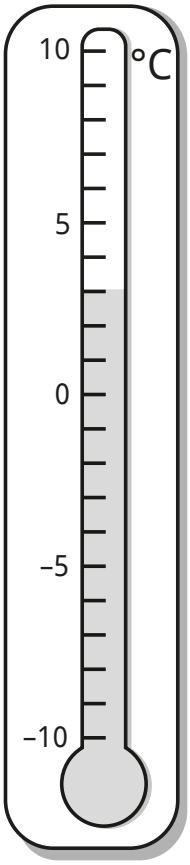
4 Write the numbers in order, from smallest to greatest.

7,201,508 7,085,210 875,102 7,012,850

_____

1 mark

5



The temperature in London is 3 °C.

Leeds is 5 degrees colder than London.

What is the temperature in Leeds?

°C

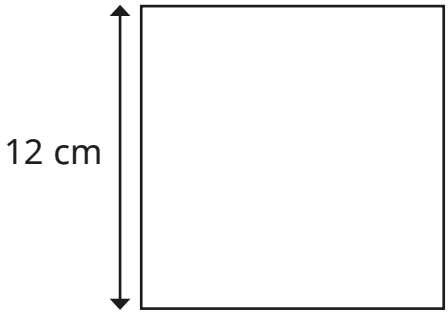
1 mark

6 Write the number that is ten thousand less than two million.

1 mark

7 Sam cuts a piece of string into three equal pieces.

One of the pieces is used to form a square with sides 12 cm long.



How long was the original piece of string?

Show your method

cm

2 marks

8 Mo says, "11 and 15 have exactly one common factor."

Do you agree with Mo?

Circle your answer.

Yes **No**

Explain your reasoning.

1 mark

9 Two of the fractions in the list are equivalent.

Circle the equivalent fractions.

$\frac{7}{12}$ $\frac{3}{5}$ $\frac{8}{10}$ $\frac{15}{25}$ $\frac{12}{24}$

1 mark

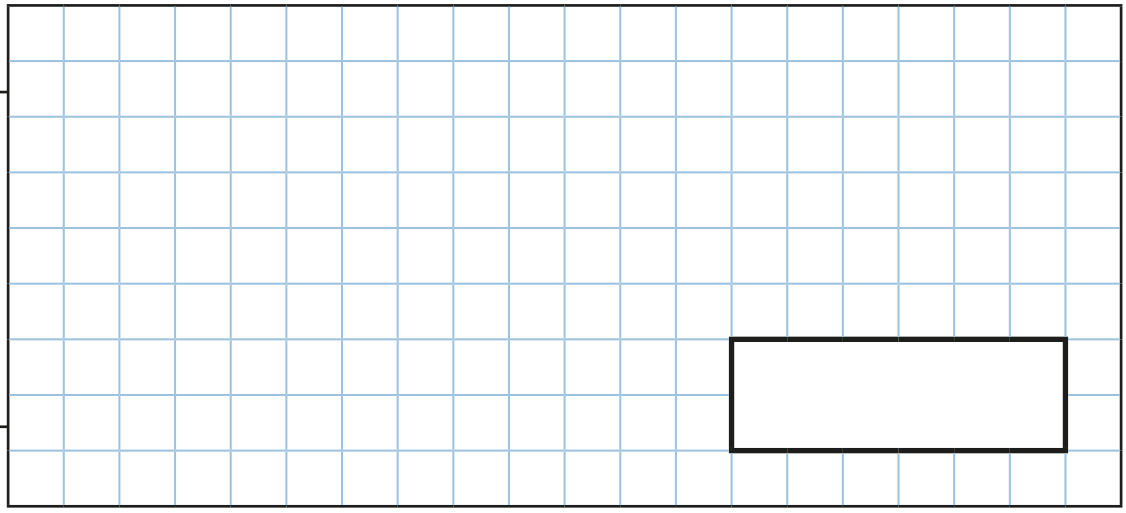
10 A bottle holds 2 litres of water.

Amir fills 6 glasses with water.

Each glass has a capacity of 220 ml.

How much water is left in the bottle?

Show your method



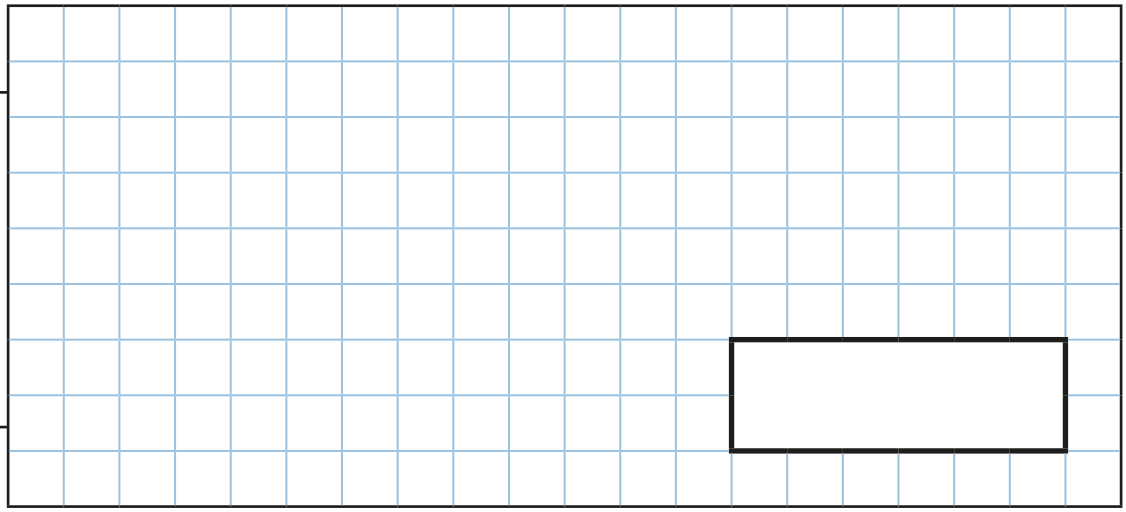
2 marks

11 The product of two numbers is 768

One of the numbers is 24

Work out the other number.

Show your method



2 marks

12 Write the missing number to make the calculation correct.

$$6 + 2 \times \square = 16$$

1 mark

13 Here are two numbers written in Roman numerals.

CDL	**DX**

Tick the number that is closer to 500

Explain your reasoning.

1 mark

14 Find the missing numbers.

$$2\frac{4}{\square} = \frac{12}{5}$$

1 mark

$$\frac{2}{3} \text{ of } 60 = \frac{4}{5} \text{ of } \square$$

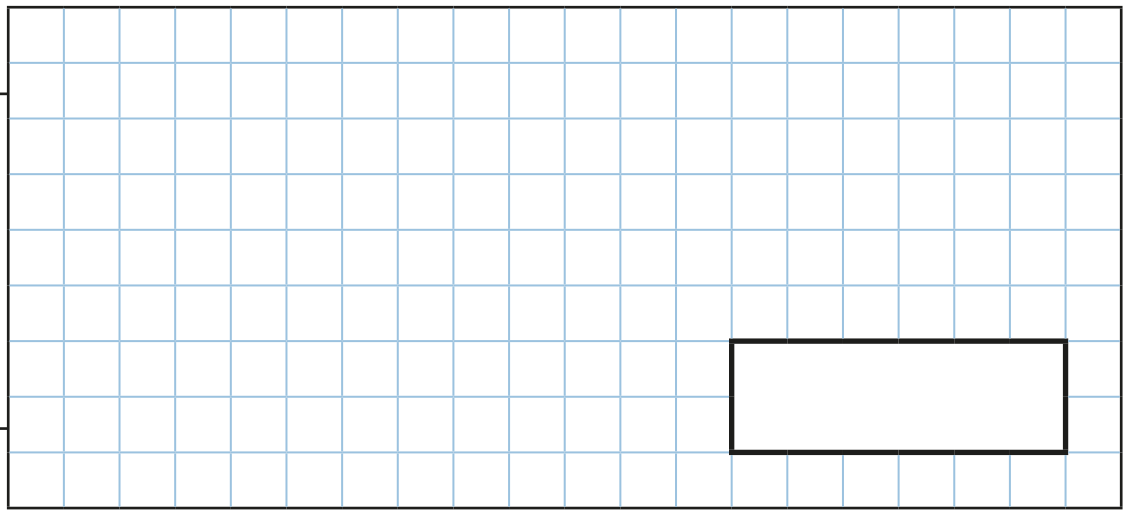
2 marks

15 660 children go on a school trip.

Each bus holds a maximum of 40 children.

How many buses are needed?

Show your method



2 marks

16 Write the fractions in order of size, starting with the smallest.

$\frac{3}{5}$ $\frac{2}{9}$ $\frac{3}{7}$ $\frac{2}{7}$

1 mark

17 Tommy mixes $5\frac{1}{2}$ litres of black paint and $2\frac{2}{5}$ litres of white paint to make grey paint.

He uses $4\frac{3}{4}$ litres of grey paint to paint his room.

How much grey paint does Tommy have left?

Show your method

litres

2 marks

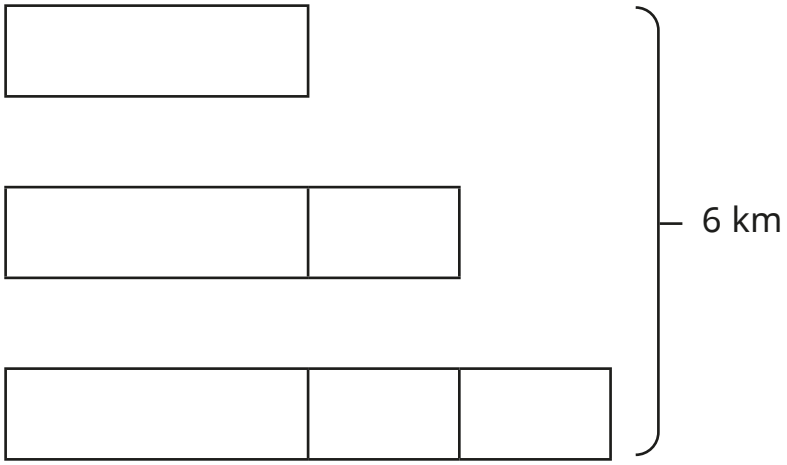
18 Rosie is training for a race.

Each day, she runs 250 m further than the day before.

After three days' training, she has run a total of 6 km.

How far did she run on the first day?

You may use the bar model to help you.



Show your method

2 marks

19 Dora has a box containing 60 counters.

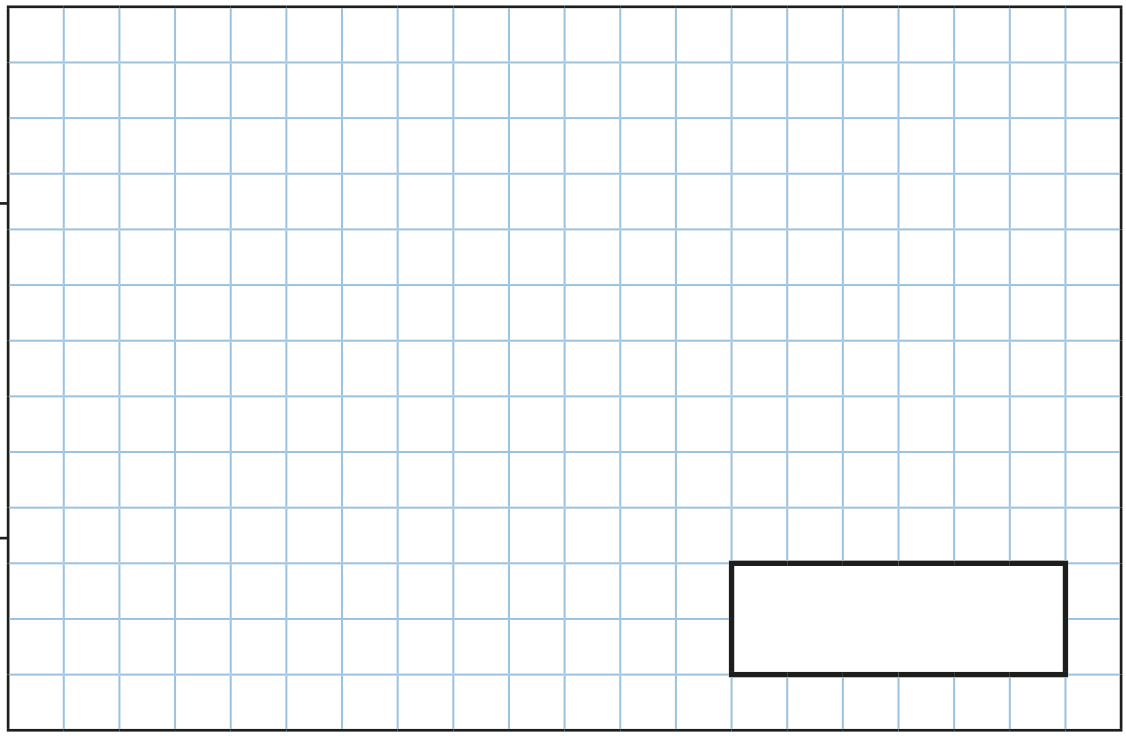
One-quarter of the counters are blue.

Dora puts some more blue counters in the box.

Now two-thirds of the counters are blue.

How many blue counters does Dora put in the box?

Show your method



3 marks

END OF PAPER

BLANK PAGE

Please do not write on this page.

BLANK PAGE

Please do not write on this page.