Progress check

Year 6

Mathematics

Paper 2: reasoning and problem solving

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

Published Autumn 2015

These assessments have been designed by the White Rose Maths Hub.
For more information, please visit **www.whiterosemathshub.co.uk**

MathsHUBS White Rose

[BLANK PAGE]

Please do not write on this page.

Instructions

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

Questions and answers

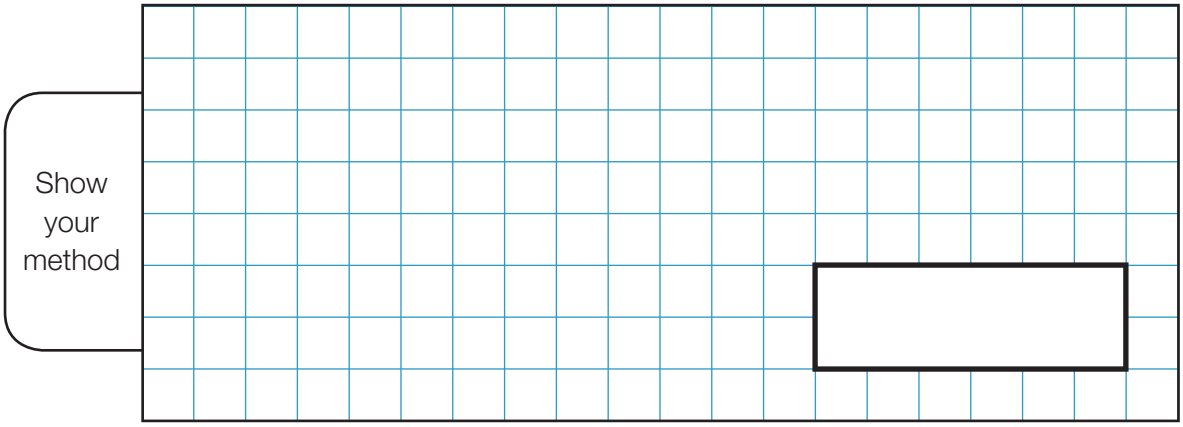
You have **35 minutes** to complete this test.

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.

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 Jack has the following number

540392

He adds five thousands to his number.

What is his new number?

1 mark

2 Put the **same** number in each box to make the statement correct.

$$7\square 4 < 74\square$$

1 mark

3 Two **different** numbers rounded to the nearest 10 are both 30

When the numbers are added together they equal 60

What could the two numbers be?

1 mark

4 Tony and his 5 friends buy tickets for a musical.

They each pay £17.50

How much do they pay altogether?

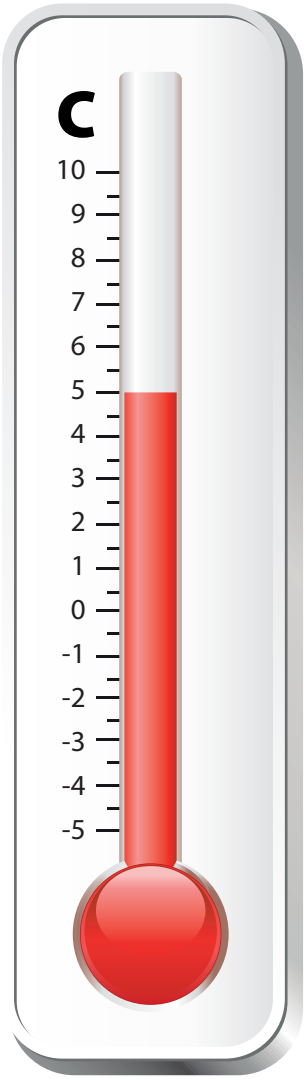
Show your method

£

2 marks

5 Nikolas is finding the difference in temperature between midday and midnight.

The thermometer shows the temperature at midday.



At midnight it is 7°c colder.

What is the temperature at midnight?

1 mark

6 Complete the sequences.

$\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\square$, $\square$

$\frac{2}{5}$, $\frac{4}{5}$, $\square$, $\square$, 2

2 marks

7 Each box represents the **same** number.

Use this number to fill in the boxes.

$$\begin{array}{r} 1\ 4\ \square\ 5 \\ \times\quad\quad 2\ \square \\ \hline 4\ \square\ 0\ 5 \\ 2\ 8\ 7\ 0\ 0 \\ \hline \square\ \square\ 0\ 0\ 5 \end{array}$$

1 mark

8 Here are some facts.

$$A + \frac{2}{7} = 1$$

$$1 - B = \frac{6}{7}$$

$$A + B + C = 1$$

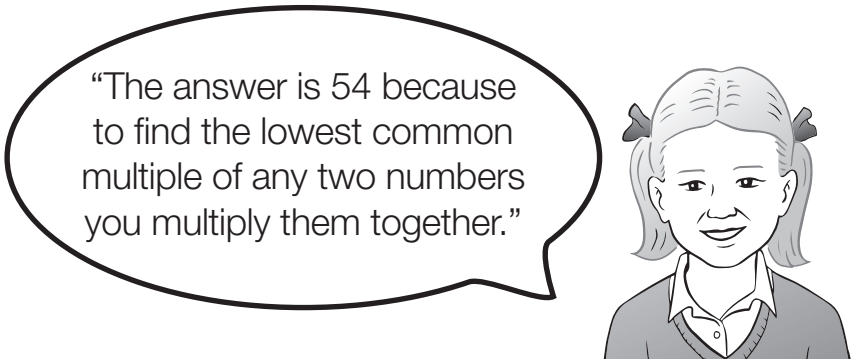
Calculate the value of C.

Show your method

C =

1 mark

9 Fran is finding the lowest common multiple of 6 and 9



Is Fran correct?

Circle your answer

Yes **No**

Explain your choice.

1 mark

10 Complete the statements using **<**, **>** or **=**

$168 \times 8 \quad \square \quad 168 \times 7$

$168 \div 8 \quad \square \quad 168 \div 7$

$168 + 8 \quad \square \quad 168 - 7$

2 marks

11 Find the missing values.

$$\frac{3}{\square} = \frac{6}{10}$$

$$\frac{25}{30} = \frac{5}{\square}$$

$$\frac{2}{3} = \frac{2 + 6}{3 + \square}$$

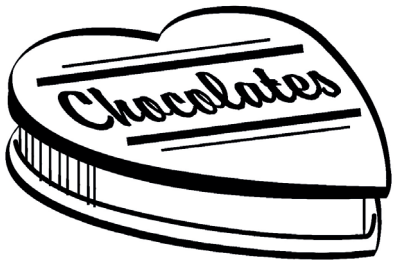
2 marks

12 A box of chocolates weighs 280g.

The box contains 8 identical chocolates.

Manish eats 3 chocolates.

The box of chocolates now weighs 199g.



If the box is empty, how much would it weigh?

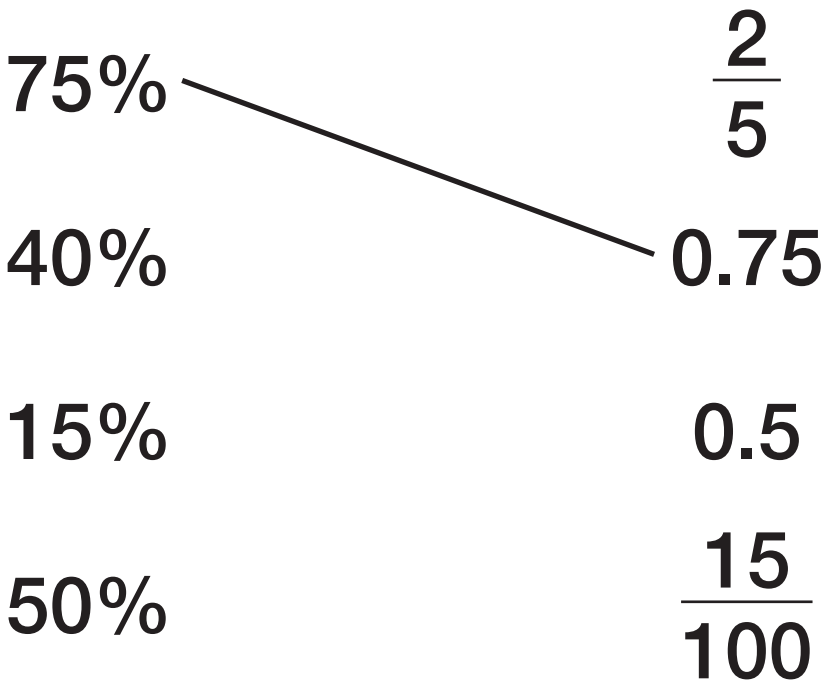
Show your method

g

2 marks

13 Match each percentage to the correct equivalent.

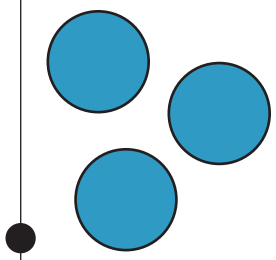
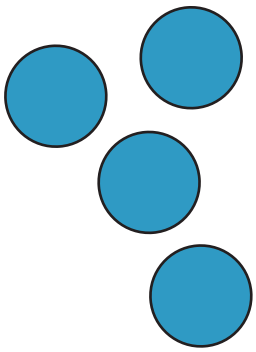
The first one has been done for you.



2 marks

14 Sara uses counters to represent the decimal equivalent to $\frac{3}{8}$

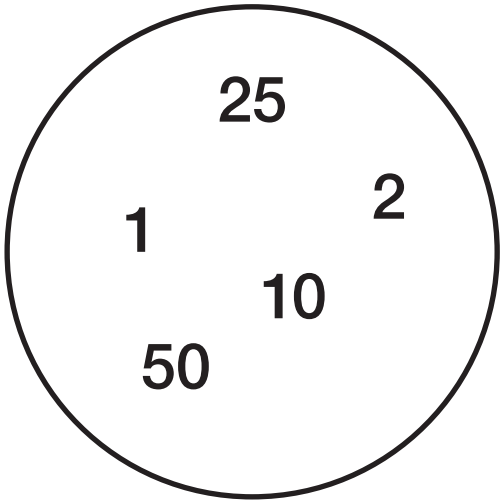
Complete the grid to show her number.

Ones	Tenths	Hundredths	Thousandths
			

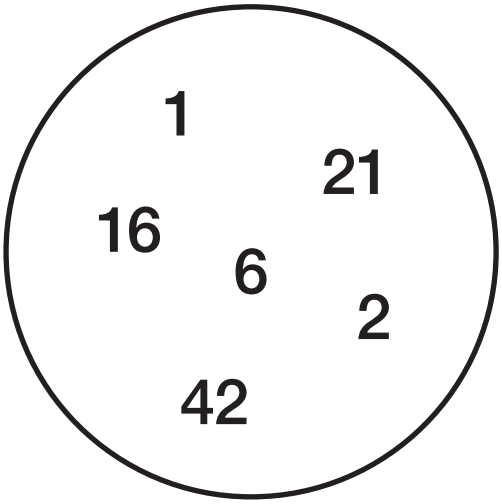
2 marks

15 Zac is sorting numbers into groups.

Factors of 100



Factors of 84



One of the numbers is incorrect.

Circle this number.

1 mark

Some factors are missing from each group.

Find the **common** factor that is missing?

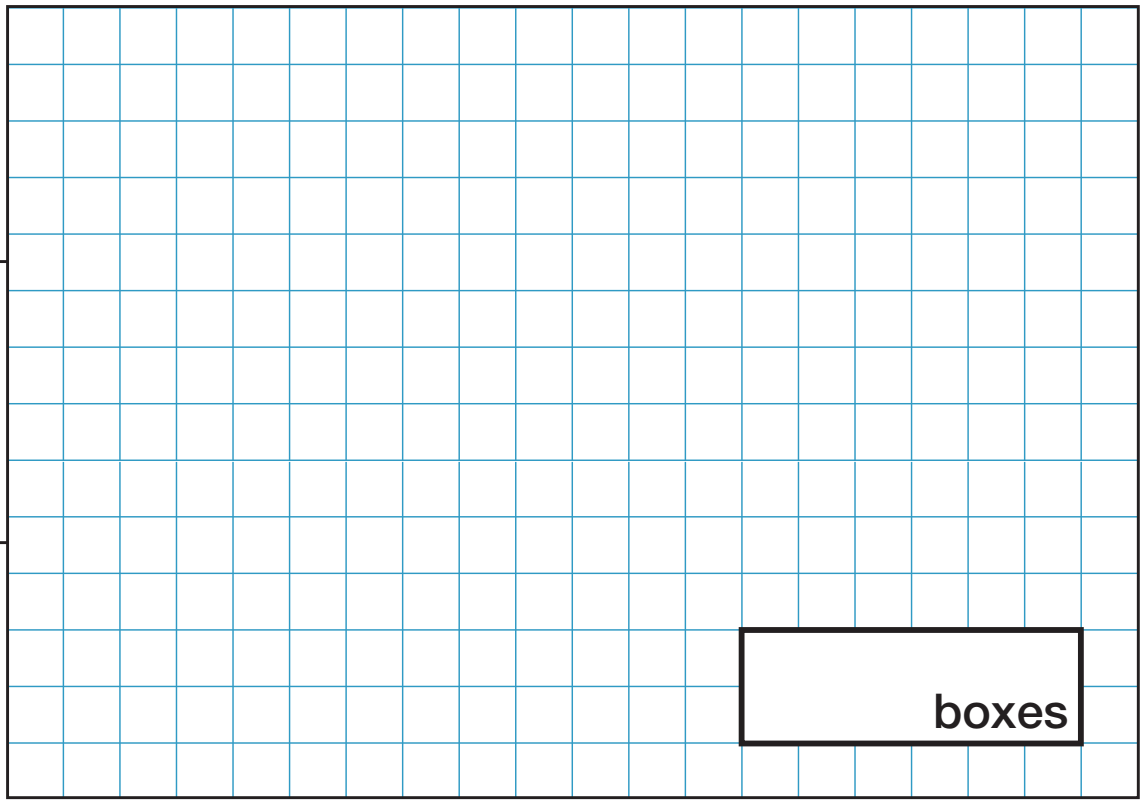
1 mark

16 796 eggs are put into boxes.

Each box holds 6 eggs.

How many boxes are needed?

Show your method



2 marks

17 Ben says,

Do you agree?

Yes **No**

Explain your answer.

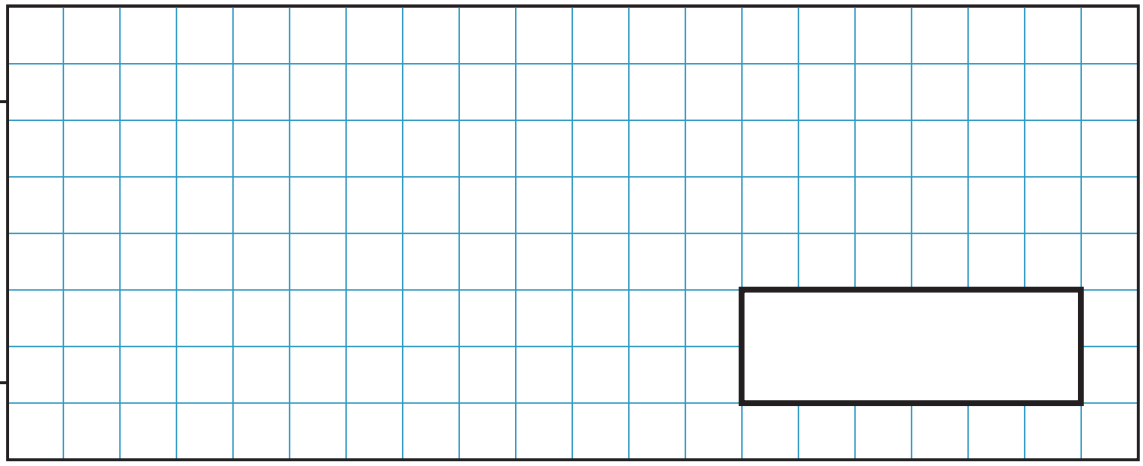
1 mark

18 Here are four fraction cards.

$\frac{7}{12}$ $1\frac{1}{3}$ $1\frac{5}{6}$ $\frac{3}{4}$

Find the **difference** between the smallest and largest fraction.

Show your method



2 marks

19 Here are three calculation cards.

A	B	C
$2^2 + 3^2$	$6 + 27 \div 3$	3^3

Which card has the **lowest** value?

Show your method

Card

2 marks

[BLANK PAGE]

Please do not write on this page.