Year 3

Mathematics

Paper 2: reasoning and problem solving

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

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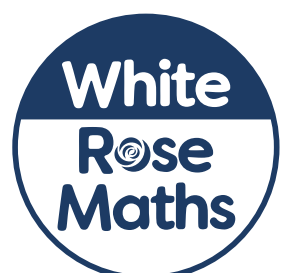
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Please do not write on this page.

Instructions

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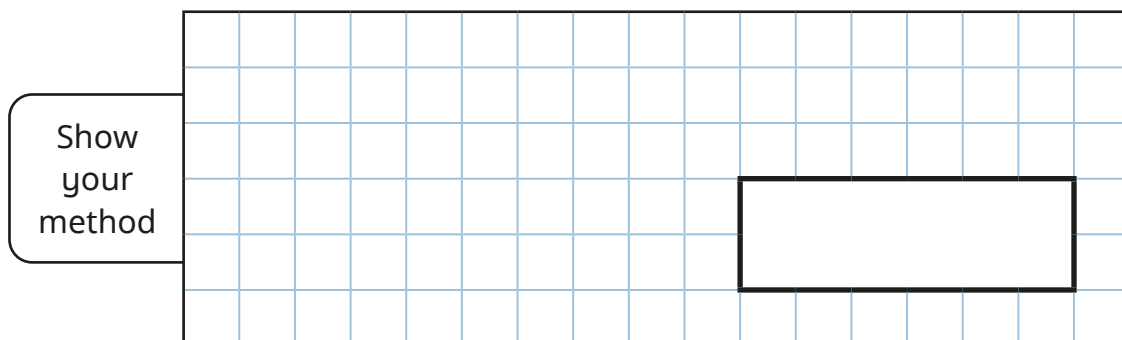
Questions and answers

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:

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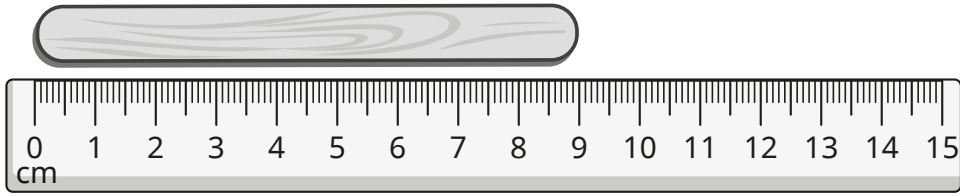
You can come back to it later, if you have time.

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

Marks

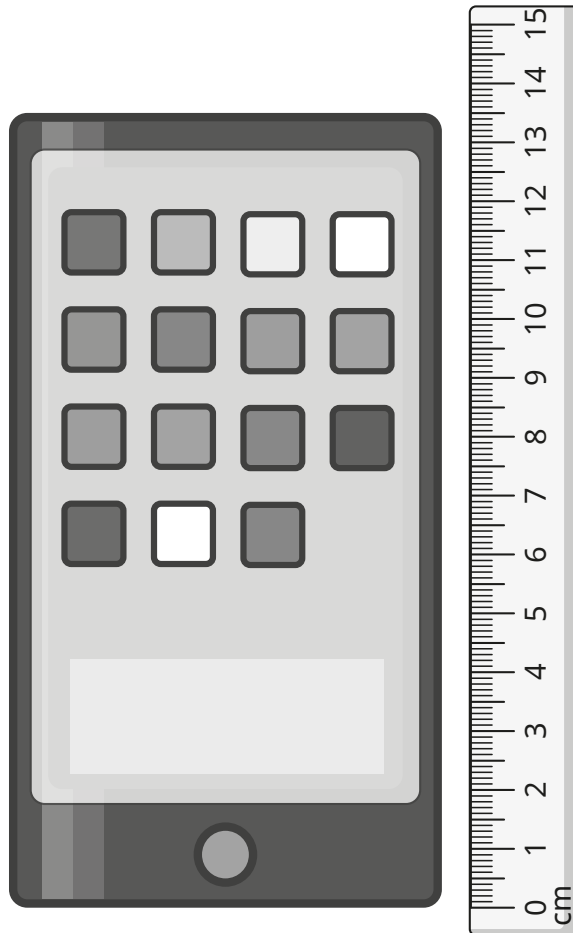The number under each line at the side of the page tells you the maximum number of marks for each question.

1 What is the length of the lolly stick?

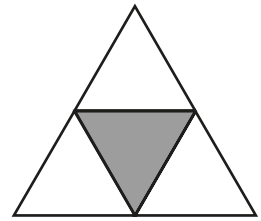|	
	cm

1 mark

How tall is the phone?

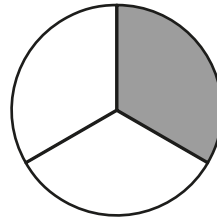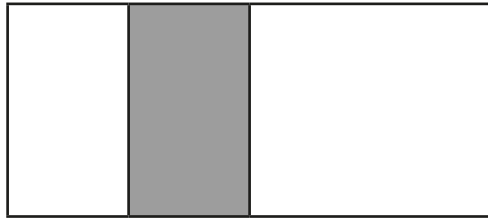|	
cm	**mm**

1 mark

2 Tick the shape that has $\frac{1}{3}$ shaded.

3 Write two multiplications and two divisions shown by the array.

	×		=	

	×		=	

	÷		=	

	÷		=	
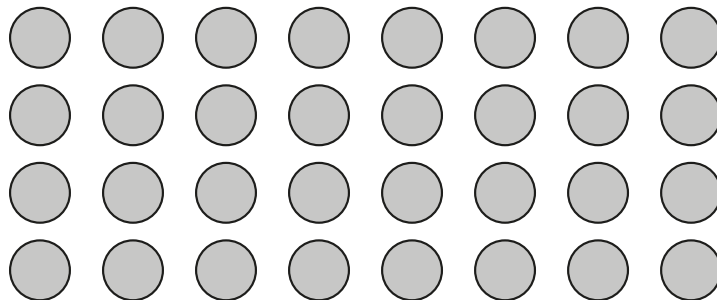
4 Complete the number line.

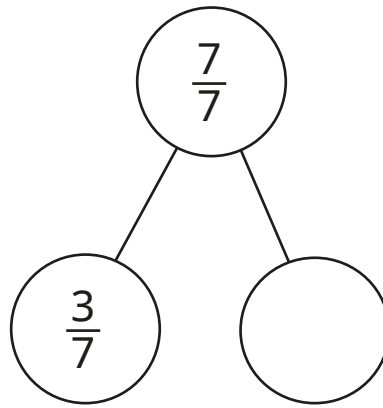$$\frac{0}{5} \qquad \square \qquad \square \qquad \square \qquad \frac{4}{5} \qquad \frac{5}{5}$$
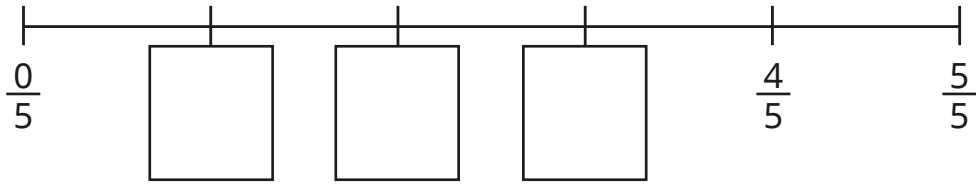
1 mark

5 28 children are put into groups of 4

How many groups are there?

1 mark

Complete the part-whole models.

$$\frac{7}{7}$$

$$\frac{3}{7}$$

$$1$$

$$\frac{5}{6}$$
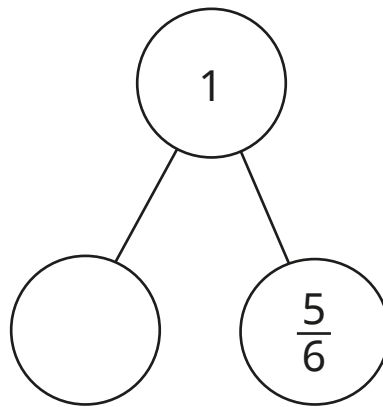
What is the volume of liquid in each jug?

	ml

l		**ml**
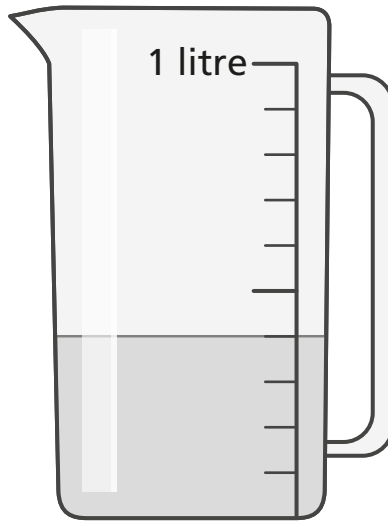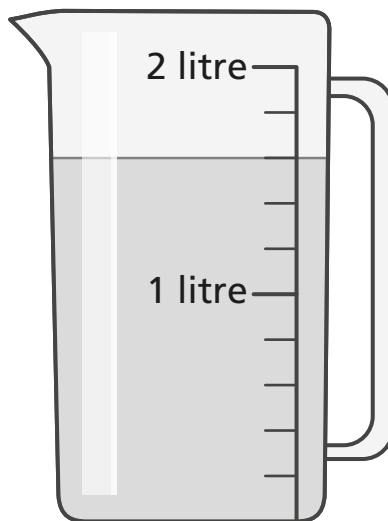
8 Write a number in each box to make the statements correct.

$$\frac{\boxed{}}{8} > \frac{3}{8}$$

1 mark

$$\frac{1}{10} < \frac{1}{\boxed{}}$$

1 mark

9 Here are three number cards.

| 121 | 98 | 145 |

What is the total of the smallest and greatest numbers?

2 marks

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10 Complete the sentences.

10 less than 397 is [ ]

1 mark

100 more than 63 is [ ]

1 mark

[ ] is 10 less than 708
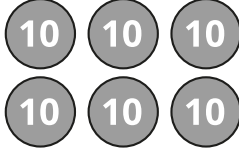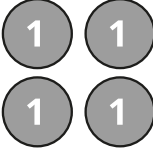
1 mark

11 Complete the number sentences.

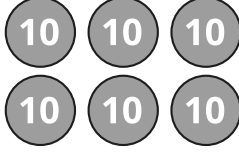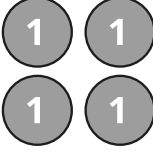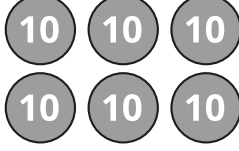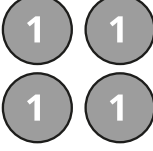$40 \times 3 = $ [ ] $\times 30$

1 mark

$40 \times 3 = 20 \times$ [ ]

1 mark

12 Nijah is using place value counters to multiply.

Tens	Ones
10 10 10 10 10 10	1 1 1 1
10 10 10 10 10 10	1 1 1 1
10 10 10 10 10 10	1 1 1 1

Write her multiplication.

[ ] × [ ] = [ ]

1 mark

13 Circle the numbers that are multiples of 10

400   65   80   101   270

Explain your reasoning.

1 mark

14 Write the lengths in order.

Start with the shortest length.

| 1 m | 180 cm | 80 mm | 78 cm |

| | | | |
| shortest | | | longest |

1 mark

15 What is the mass of an apple?

Circle the most appropriate estimate.

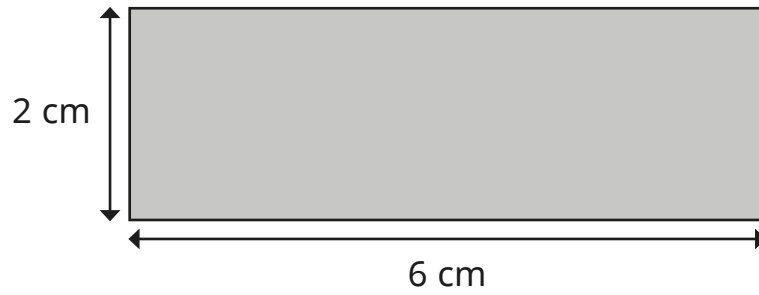**1 gram**   **10 grams**

100 grams   **1 kilogram**

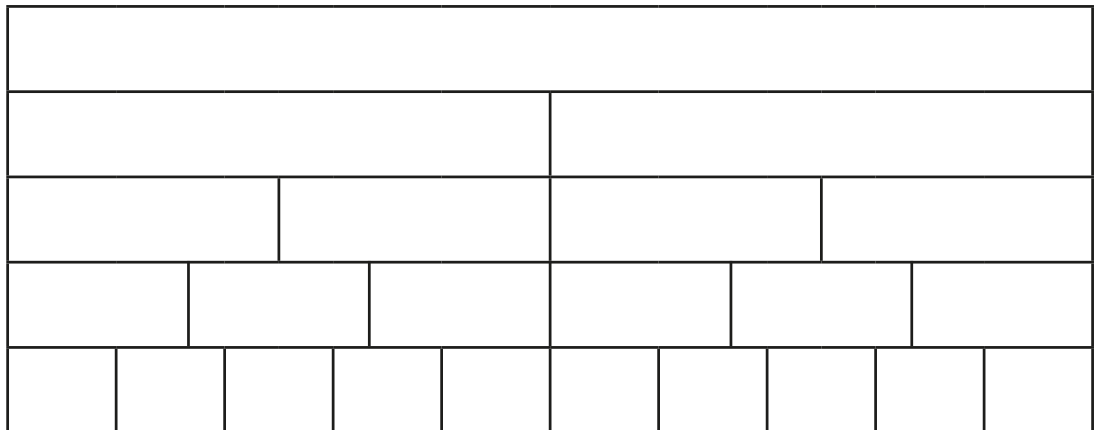1 mark

16 Work out the perimeter of the rectangle.
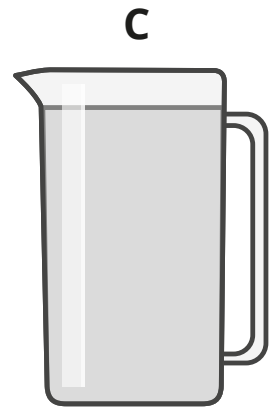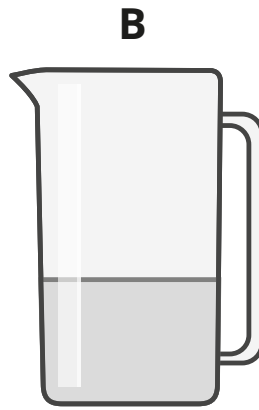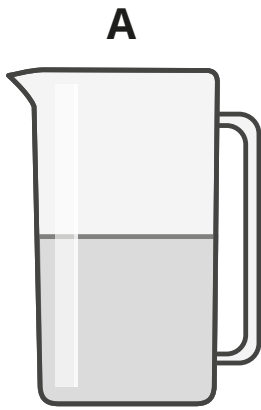
2 cm

6 cm

cm

17 Write a fraction that is equivalent to $\frac{1}{2}$

You may use the fraction wall to help you.

18

A   **B**   **C**

Jug A has half as much water as Jug C.

Jug B has 85 ml less water than jug A.

The volume of water in jug C is 1 litre.

Work out the volumes of water in jug A and jug B.

Show your method

jug A [_____ ml] jug B [_____ ml]

2 marks

19 Eva has 3 m 60 cm of string.

She cuts the string into 3 equal pieces.

What is the length of each piece of string?

m	cm

20 Huan has more than 30 buttons but fewer than 40 buttons.

When he shares them equally into 4 bowls, he has no buttons left over.

When he shares them equally into 5 bowls, he has one button left over.

How many buttons does Huan have?

END OF PAPER