Spring progress check

Year 6

Mathematics

Paper 2: reasoning and problem solving

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

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Instructions

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

Questions and answers

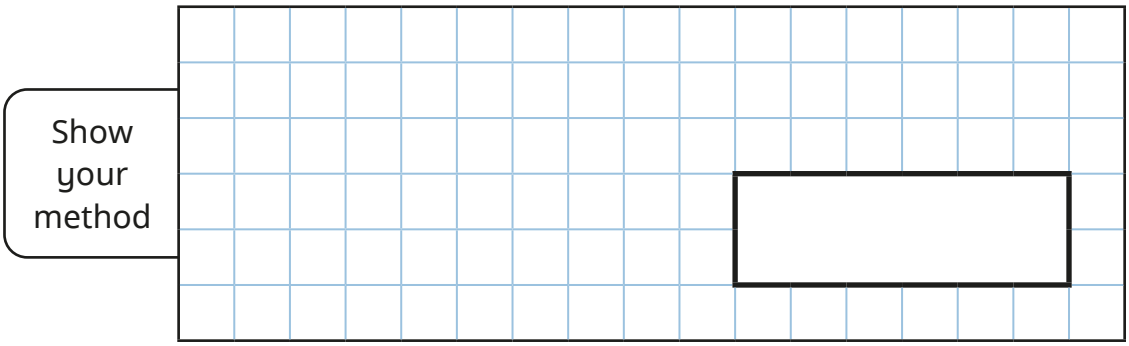
You have **50 minutes** to complete this paper.

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 Circle the greatest number.

6,000,000 **7,000,000** **5,500,000**

1 mark

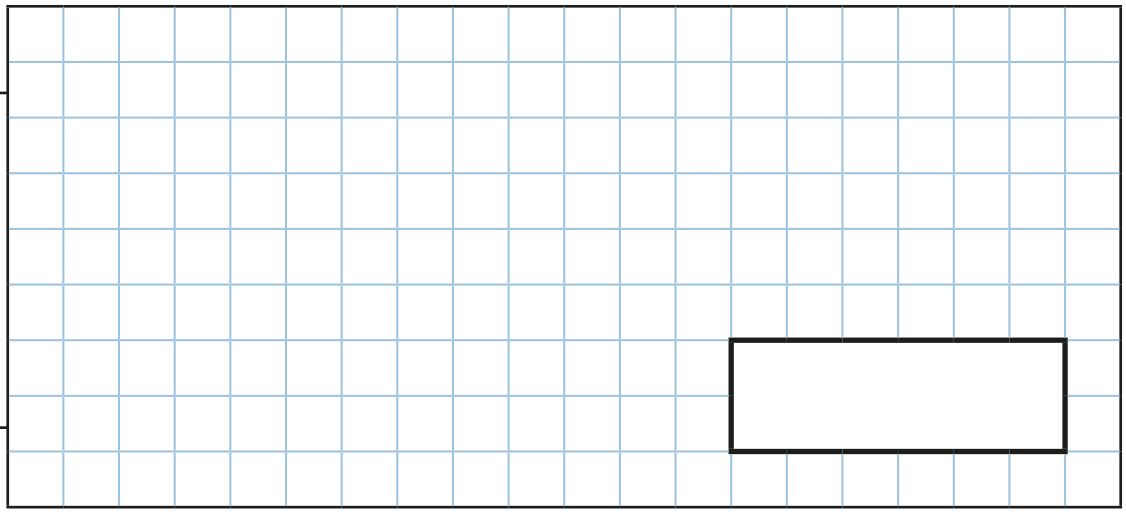
2 25,379 people visited a zoo at the weekend.

13,450 were children.

The rest were adults.

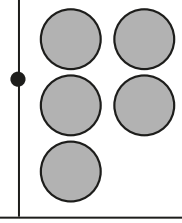
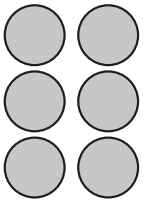
How many were adults?

Show your method



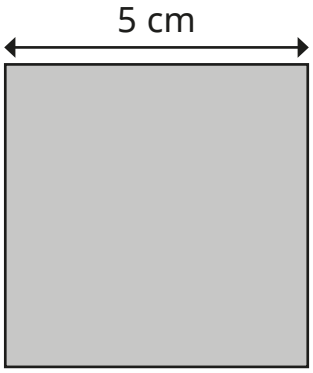
1 mark

3 What number is **one hundred** times the size of 0.56?

Hundreds	Tens	Ones	Tenths	Hundredths
				

1 mark

4 The sides of a square are 5 cm.



What is the **area** of the square?

cm²

1 mark

What is the **perimeter** of the square?

cm

1 mark

5 Match the cards that show the same length.

500 m	0.5 m
15 mm	0.5 km
5 m	1.5 cm
500 mm	500 cm

3 marks

6 For every 3 sweets that Eva has, Mo has 2 sweets.

They have 45 sweets altogether.

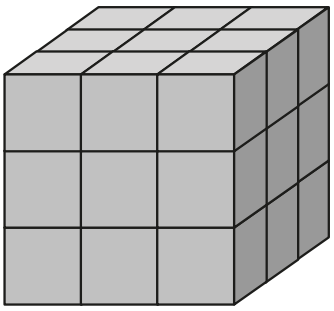
How many sweets do they each have?

Eva ☐

Mo ☐

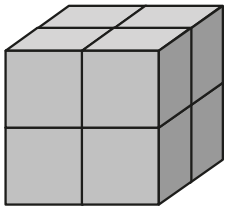
2 marks

7 Ron builds a large cube using centimetre cubes.



He removes some of the centimetre cubes.

He now has this cube.



How many centimetre cubes has Ron removed?

1 mark

8 Mo is thinking of a number.

His number:

- has 2 decimal places
- rounds to 4.7 to one decimal place

Circle the numbers that Mo could be thinking of.

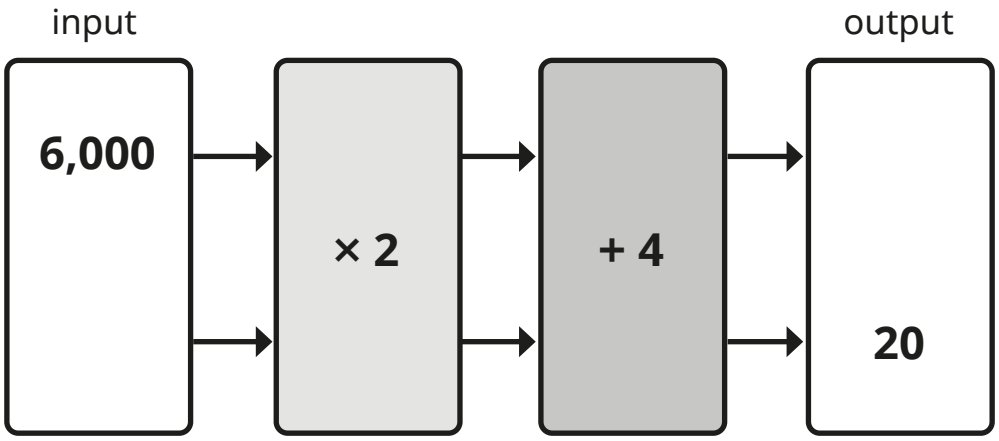
4.71 **4.6** **4.731** **4.68** **4.75**

1 mark

What is the smallest possible number that Mo could be thinking of?

1 mark

9 Complete the function machine.



2 marks

10 Alex and Tommy are both walking 10 km.

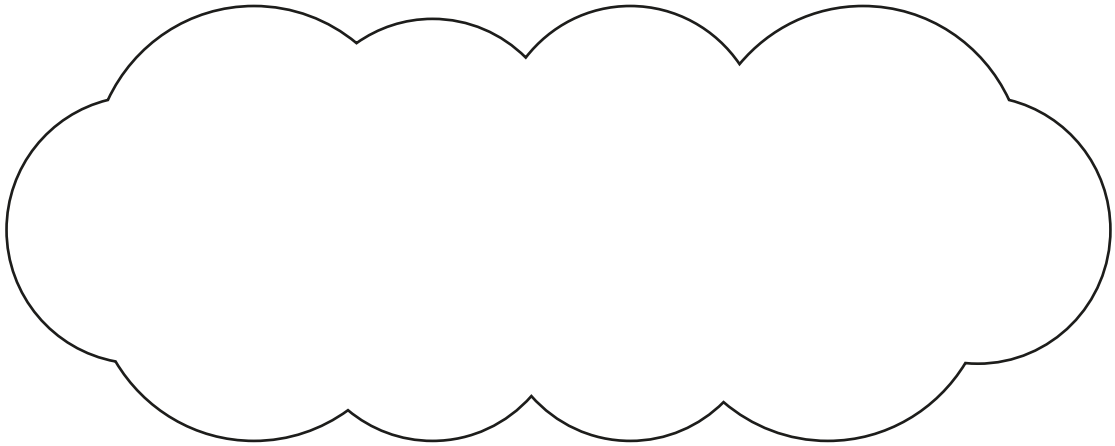
Alex has walked 85% of the way.

Tommy has $\frac{1}{10}$ of the way left to walk.

Who has walked further?

_____

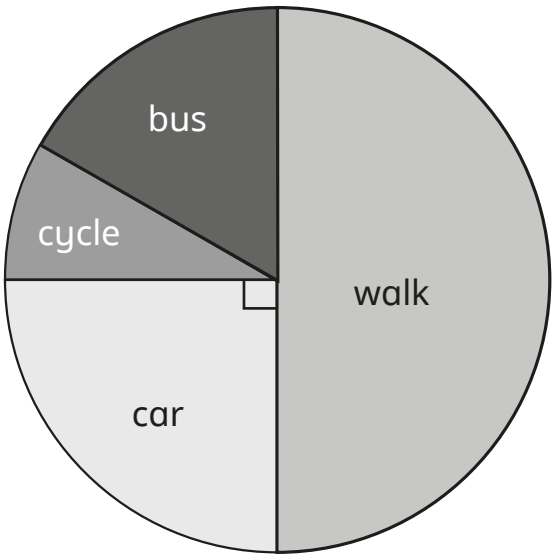
Explain how you know.



1 mark

11 The pie chart shows how 36 children travel to school.

Twice as many children travel by bus as cycle.



How many children cycle to school?

2 marks

12 Here are two rectangles.

A

B

Rectangle A is half the length of rectangle B.

Three copies of rectangle A and one copy of rectangle B are placed end to end.

The total length is 10 cm.

Find the lengths of rectangles A and B.

A = **cm**

B = **cm**

2 marks

13 Complete the table.

Fraction	Decimal	Percentage
$\frac{3}{4}$		75%
$\frac{17}{100}$		%

3 marks

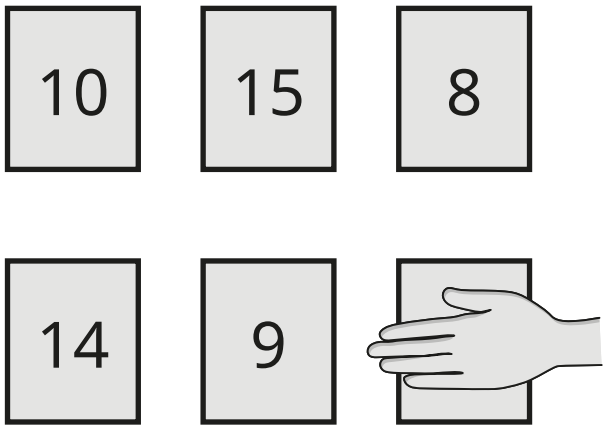
14 Fill in the missing number.

$$\frac{14}{42} = \frac{\square}{48}$$

1 mark

15 Here are six number cards.

The number of one of the cards is hidden.



The mean of the numbers is 12

What is the value of the hidden number?

2 marks

16 Here is a recipe for flapjacks.

Flapjacks (makes 12)

250 g porridge oats

150 g butter

150 g brown sugar

3 tbsp golden syrup

Sam wants to make 30 flapjacks.

How much butter does she need?

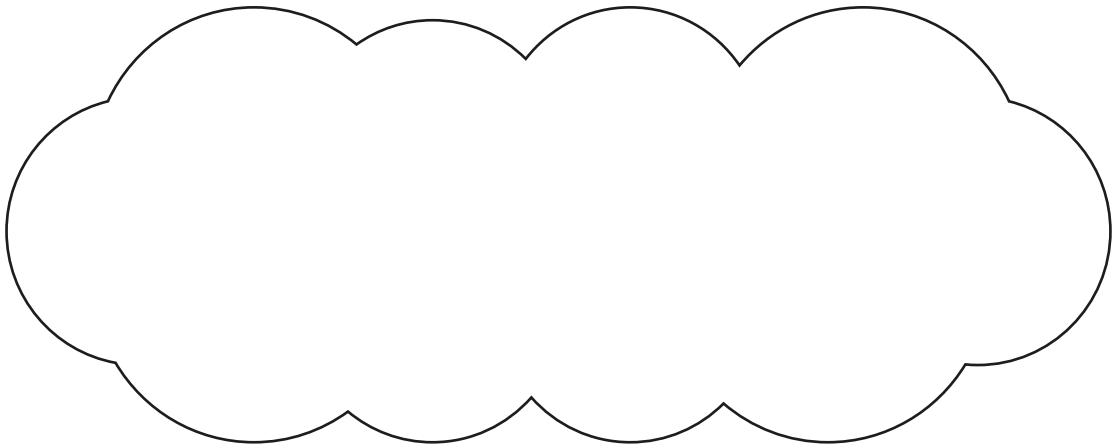
g

2 marks

17 Write <, > or = to complete the statement.

60% of £30 ◯ 30% of £60

Explain your choice.



1 mark

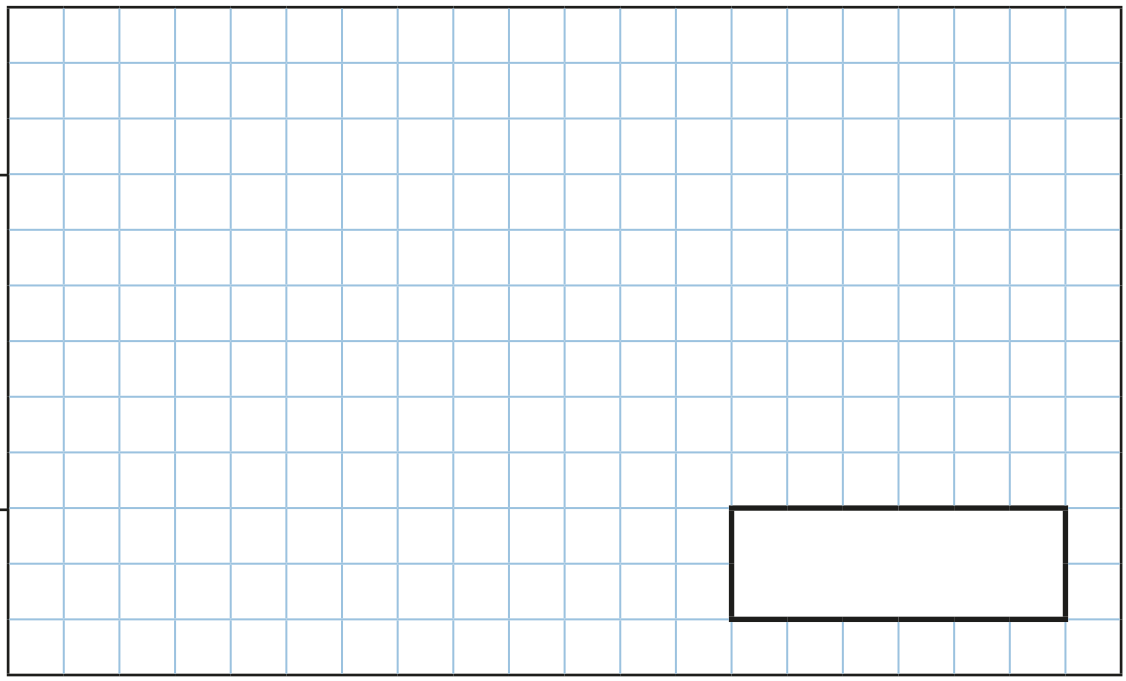
18 One box holds ten packs of pencils.

Each pack contains 24 pencils.

A school needs 2,550 pencils.

How many boxes of pencils does the school need to order?

Show your method



2 marks

19

Menu

Pizza	
Hot dog	£4.75
Cheeseburger	£7.00
Drink	£2.50

Dora buys 2 pizzas and a drink.

She pays with a £20 note and receives £4.80 change.

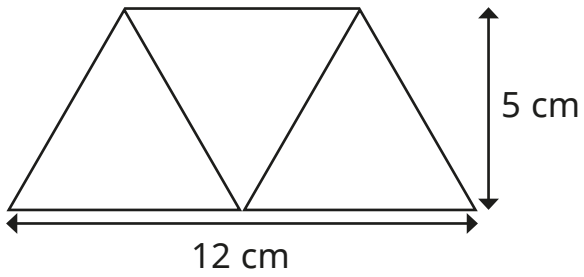
How much does a pizza cost?

Show your method

£

2 marks

20 The shape is made from three identical triangles.



Find the area of the shape.

cm²

2 marks

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