Ma

KEY STAGE 2

LEVELS 3–5

2014

Mathematics tests

Paper 2

Calculator **not** allowed

First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
School name						
DfE number						

For marker's use only

Page	Marks
5	
7	
9	
11	
13	
15	
17	
19	
21	
23	
Total marks	

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Instructions

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

Work as quickly and as carefully as you can.

You have **45 minutes** for this test.

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.

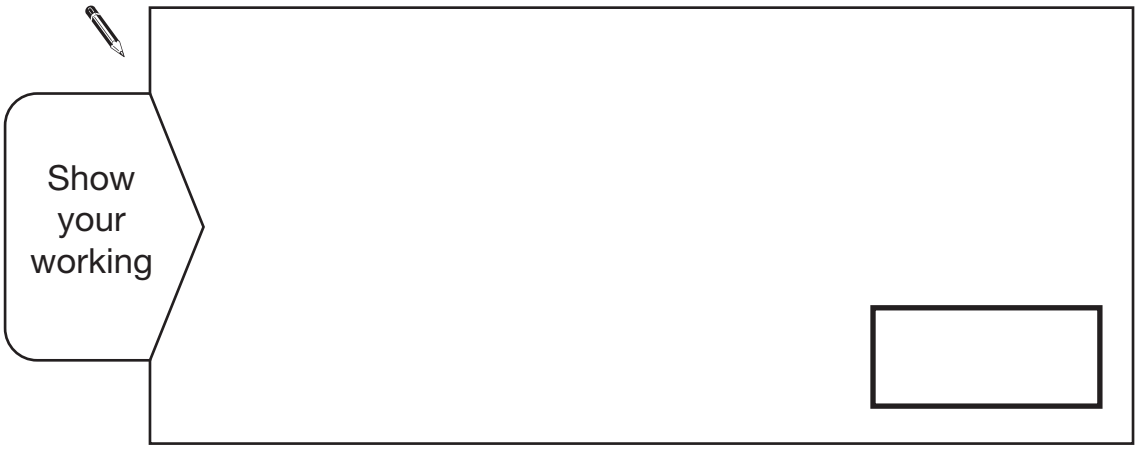
If you finish before the end, **go back and check your work**.

Follow the instructions for each question carefully.

This shows where you need to put the answer.

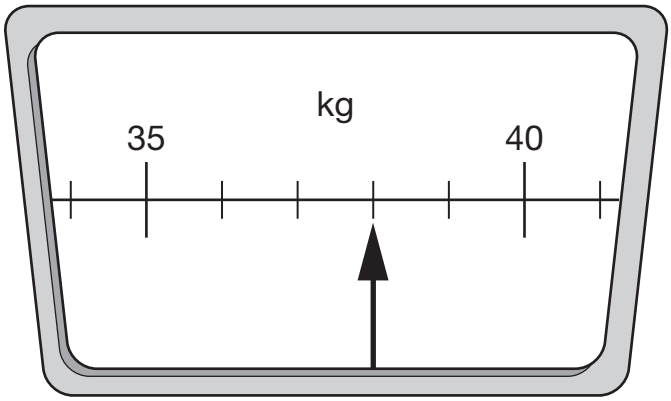
If you need to do working out, you can use any space on a page.

Some questions have an answer box like this:



For these questions you may get a mark for showing your working.

1 This scale shows how much Chen weighs.



How much does Chen weigh?

kg

1

1 mark

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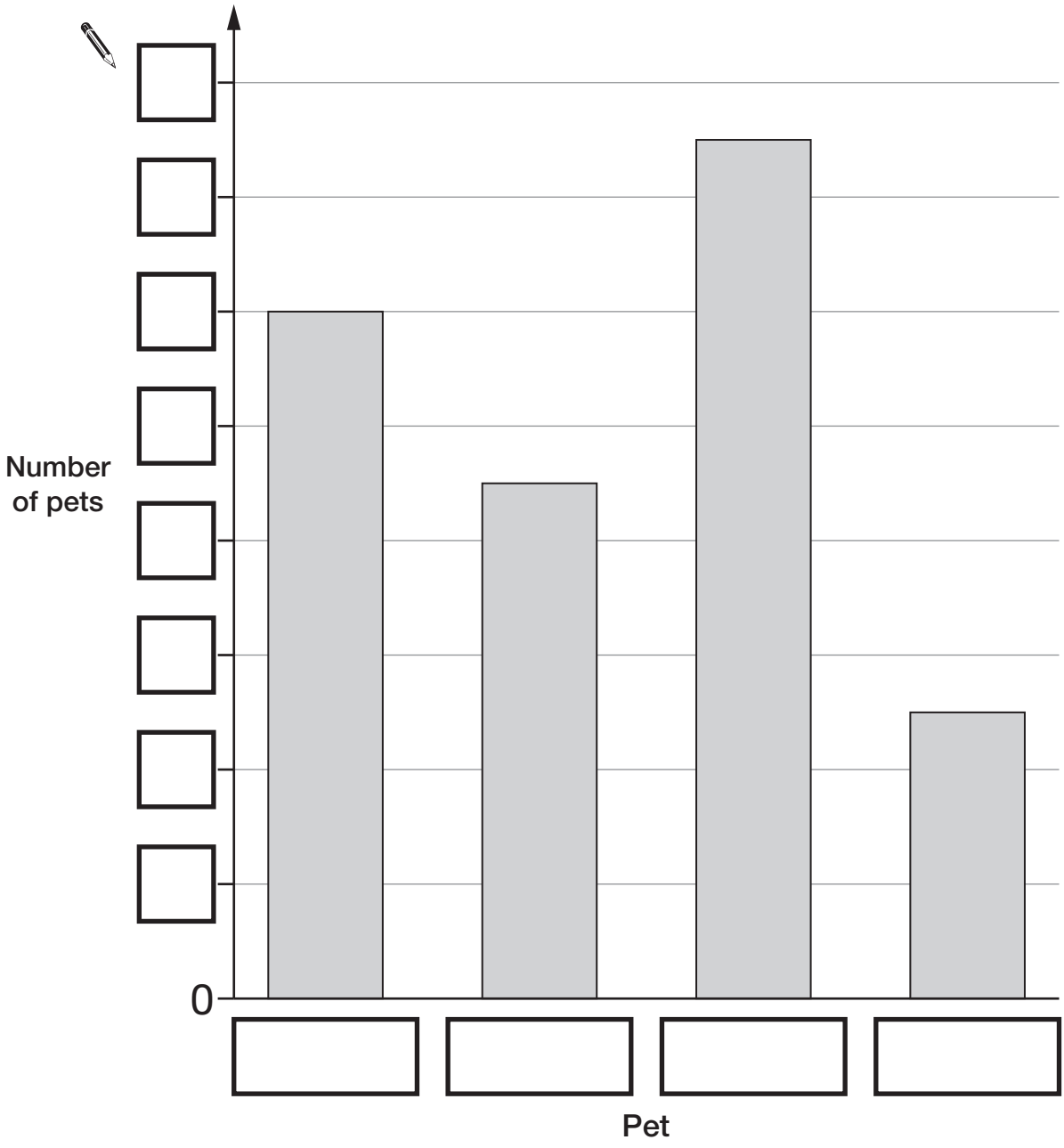
2 Alfie collected information about the pets owned by children in his class.

Here are his results.

Pet	Number of pets
dog	9
cat	12
rabbit	5
fish	15

This bar chart shows the information from the table.

Fill in **all** the missing labels.



2a

1 mark

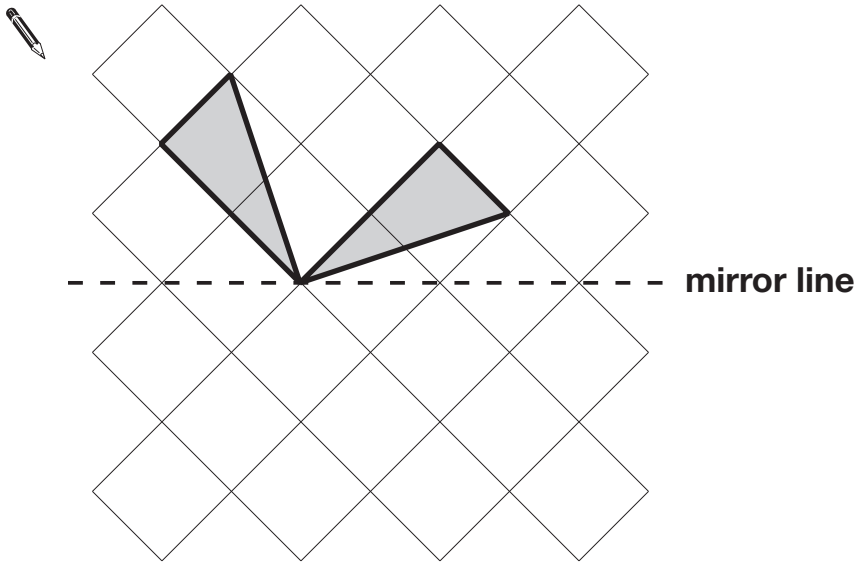
2b

1 mark

Total out of 3 ____

3 Complete this shape so that it is symmetrical about the mirror line.

Use a ruler.



3

1 mark

4 Circle **three** numbers that add to make 750

450 350 250 150 50

4

1 mark

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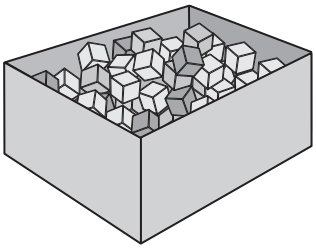
5 Seb has a box of **120** cubes.



He uses some of the cubes to build a tower.

77 cubes are left over.

How many cubes has he used?

5a

1 mark

Seb has 77 cubes left over.

He builds two more towers.

One tower uses 18 cubes and the other uses 35 cubes.

How many of his **77** cubes has he got left now?

Show your working

5bi

5bii

2 marks

Total out of 5

6 In these calculations, each missing sign is a **+** or a **−**

Write the missing signs in the circles.

8 ◯ 7 ◯ 6 ◯ 5 = 2

6a

1 mark

8 ◯ 7 ◯ 6 ◯ 5 = 4

6b

1 mark

7 Megan has 7 coins that make one pound.

The coins are of **only two** different kinds.

What are the 7 coins?

☐ ☐ ☐ ☐ ☐ ☐ ☐

7

1 mark

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8 The numbers in this sequence increase by 10 each time.

3 13 23 ...

The sequence continues in the same way.

Write **two** numbers from the sequence that add to make a total of **96**

☐ **and** ☐

8a

1 mark

Explain why it is **not** possible to find **three** numbers from the sequence that add to make a total of **96**

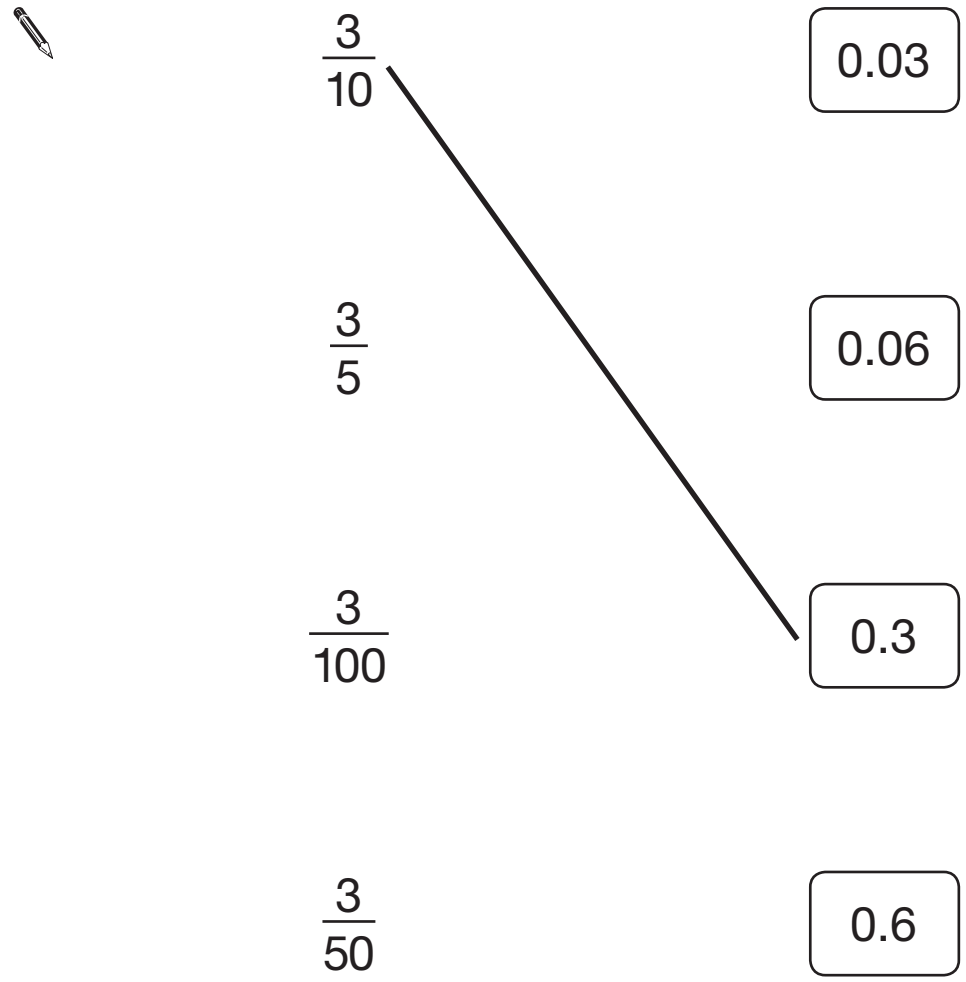
8b

1 mark

Total out of 5 ____

9 Join each fraction to the correct decimal card.

The first one has been done for you.



9

1 mark

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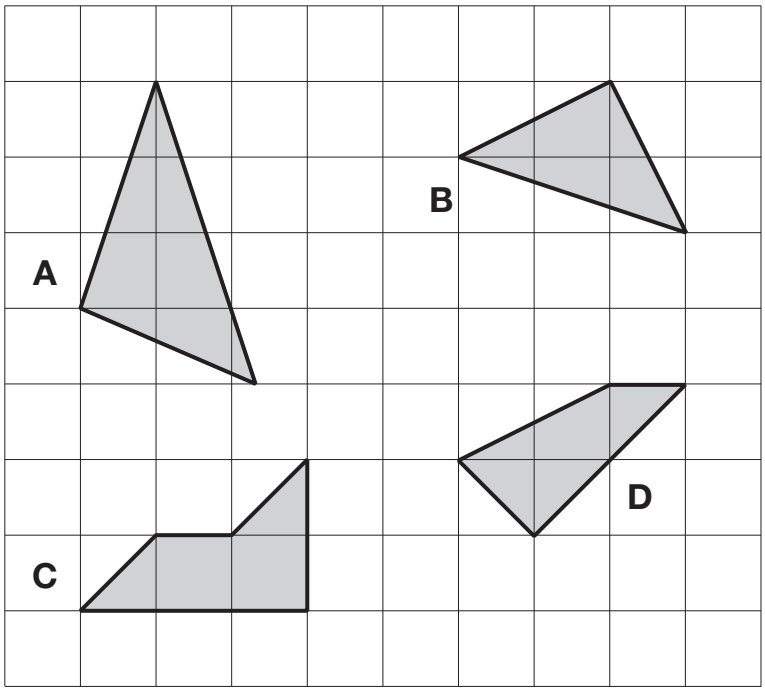
10 Here are four shapes on a square grid.



Write the letters of **all** the shapes that have **exactly two** sides which are equal in length.

10i _____

10ii _____

2 marks

Total out of 3 _____

11 Calculate **32.18 – 7.62**

11

1 mark

12 Circle the approximate measurement.

The length of a banana is about…

2 cm *20 cm* *2 mm* *2 m* *20 m*

The mass of an apple is about…

2 g *20 kg* *200 kg* *200 g* *2 kg*

A glass of fruit juice is about…

2 ml *2 l* *20 ml* *200 ml* *20 l*

12i

12ii

2 marks

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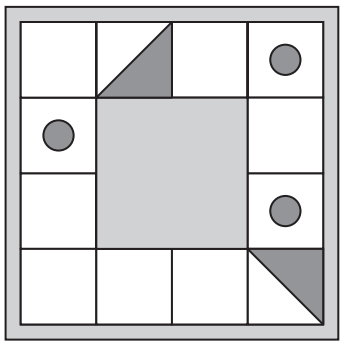
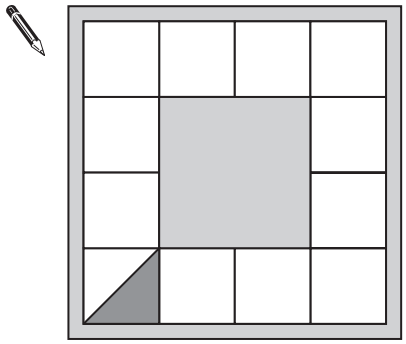
13 Here is a design of dots and triangles on a square tile.



The tile is turned clockwise to the position below.

Shade the missing shapes in their new positions.



13i

13ii

2 marks

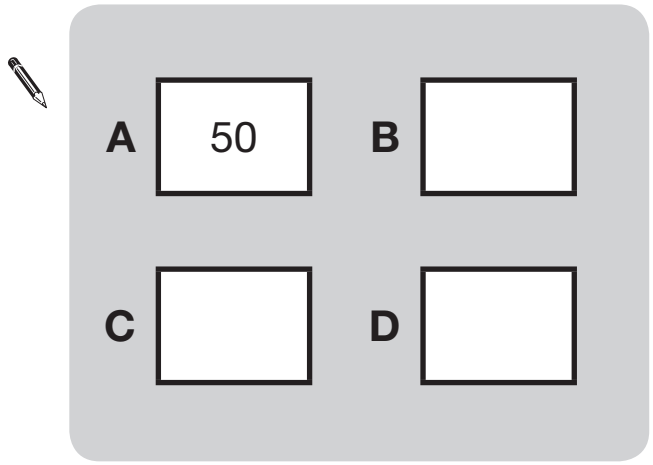
Total out of 5 _____

14 The number in **A** is **twice** the number in **D**.

The number in **B** is **5 less** than the number in **C**.

The number in **D** is **10 more** than the number in **B**.

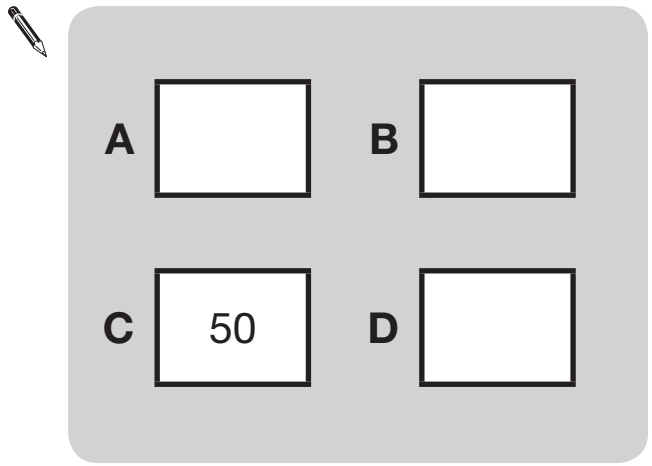
Write the missing numbers in this diagram.



14a

1 mark

Now use the same rule for this diagram.



14b

1 mark

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15 200 children went on holiday.

10% of the children went to Wales.

25% of the children went to Scotland.

How many **more** children went to Scotland than went to Wales?

Show your working

15i _____

children

15ii _____

2 marks

Total out of 4 _____

16 Amy did a survey of what time people get up on a Sunday morning.
This table shows her results for 150 people.

Time	number of people
before 7:00 am	13
7:00 am to 7:59 am	28
8:00 am to 8:59 am	59
9:00 am to 9:59 am	36
10 am and after	14

Look at the table.

How many people get up at **8 am or later**?

16a

1 mark

Amy says,

'Two-thirds of the 150 people in the survey get up before 9 am.'

Amy is correct.

Explain how you know.

16b

1 mark

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17 Write numbers in the boxes to make this calculation correct.

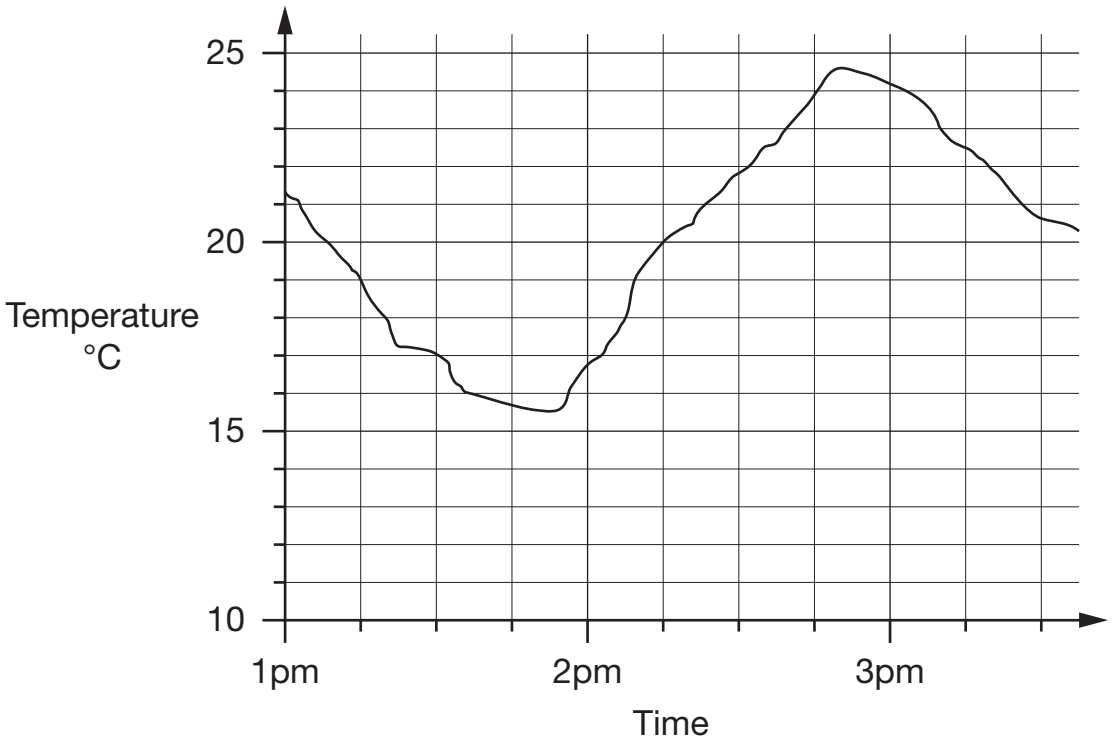
$$50 - \square = \square + 10$$

17

1 mark

Total out of 3 ____

18 This graph shows how the temperature changed in Liam's room one afternoon.



Estimate the temperature at 3:15 pm.

°C

18a

1 mark

Estimate the time when the temperature was highest.

pm

18b

1 mark

How much did the temperature change from 2 pm to 2:30 pm?
Give your answer to the **nearest degree**.

degrees

18c

1 mark

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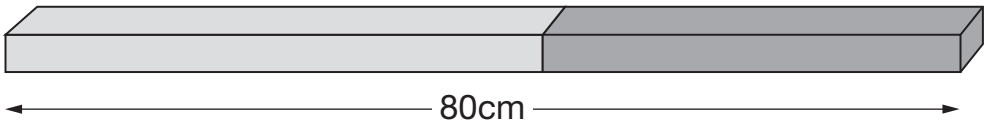
19 Alfie has two sticks.

He puts them end to end.

Not actual size



One stick is **10cm longer** than the other stick.

How long are the two sticks?

Show your working

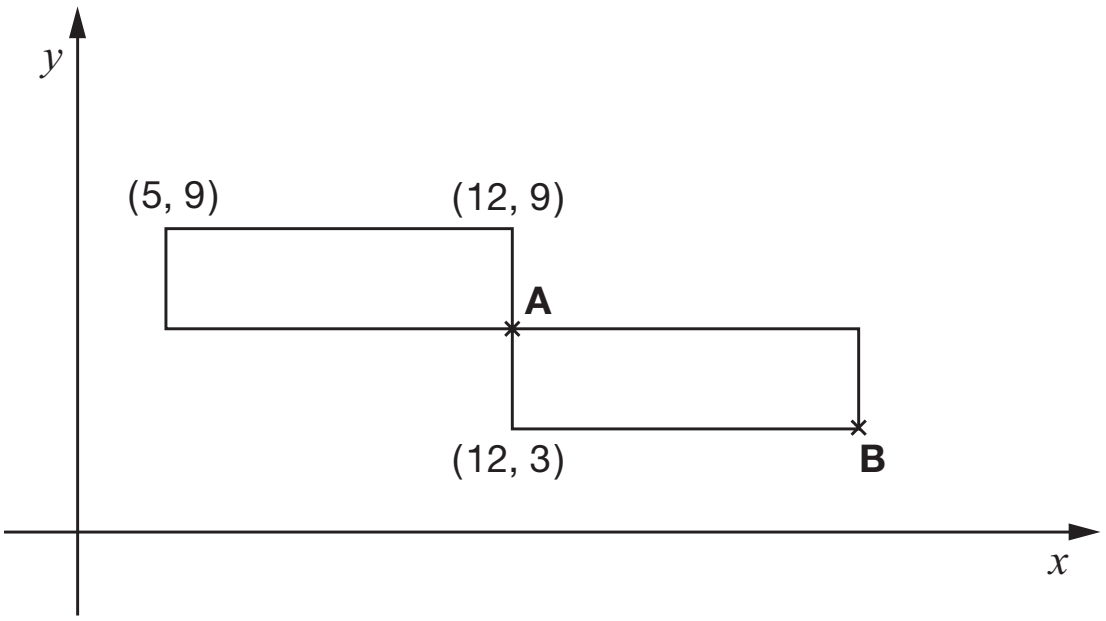
_____ **cm** **and** _____ **cm** 19i

19ii

2 marks

Total out of 5 _____

20 This diagram shows two **identical** rectangles on coordinate axes.



Write the **coordinates** of point **A** and point **B**.

A is (_____ , _____) 20a

1 mark

B is (_____ , _____) 20b

1 mark

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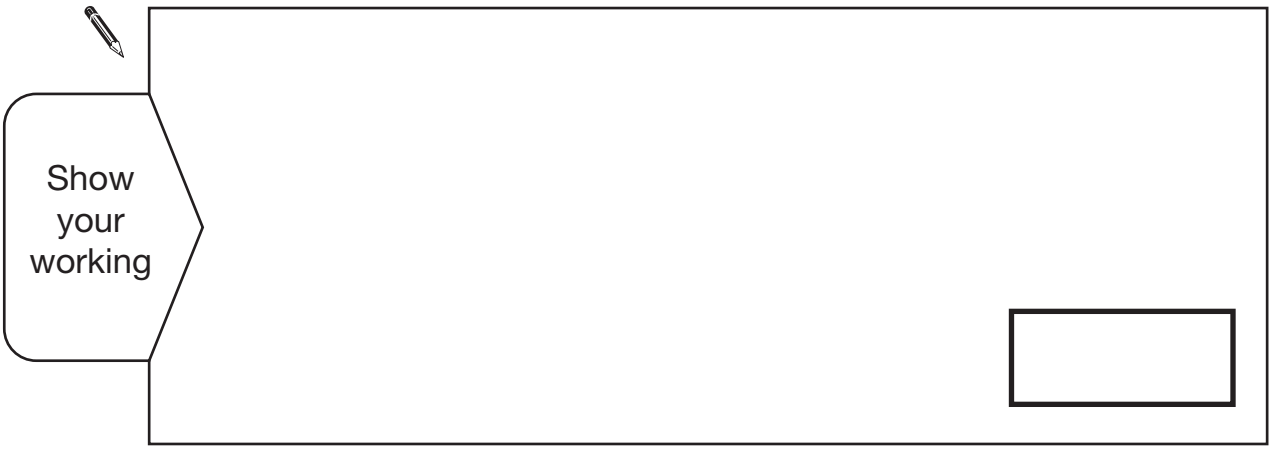
21 Amy thought of a number.

She added 0.5 to her number and then doubled the result.

Then she subtracted 0.5 and doubled the new result.

Her final answer was 61

What number did Amy start with?



21i

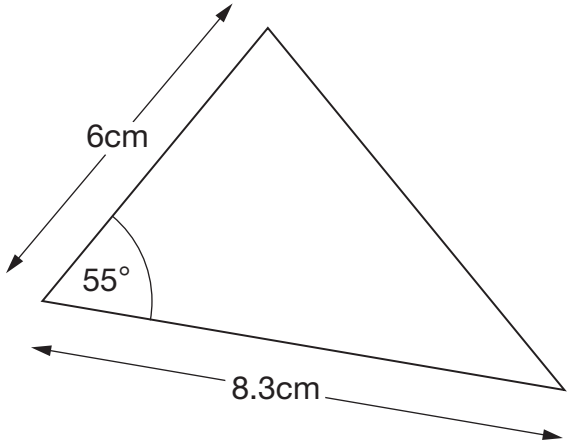
21ii

2 marks

Total out of 4

22 Here is a sketch of a triangle.

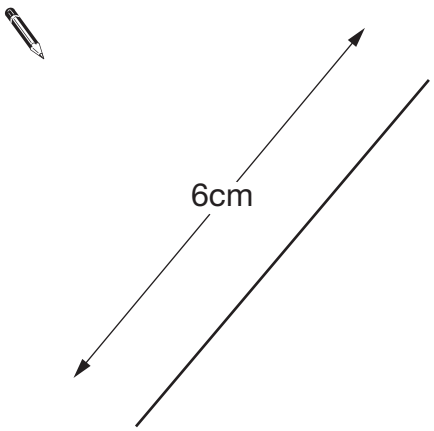
It is not drawn to scale.



Draw the full-size triangle accurately below.

Use a protractor (angle measurer) and a ruler.

One line has been drawn for you.



22i _____

22ii _____

2 marks

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23 Fill in the three missing whole numbers in this calculation.

Each number is less than 10

$\square \times \square \times \square = 105$

23

1 mark

Total out of 3 ____

Standards
& Testing
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