

Mathematics

Paper 2: reasoning



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RESPECT EDUCATE ACHIEVE

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

SAMPLE

Instructions

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

Questions and answers

You have **50 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:

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**.

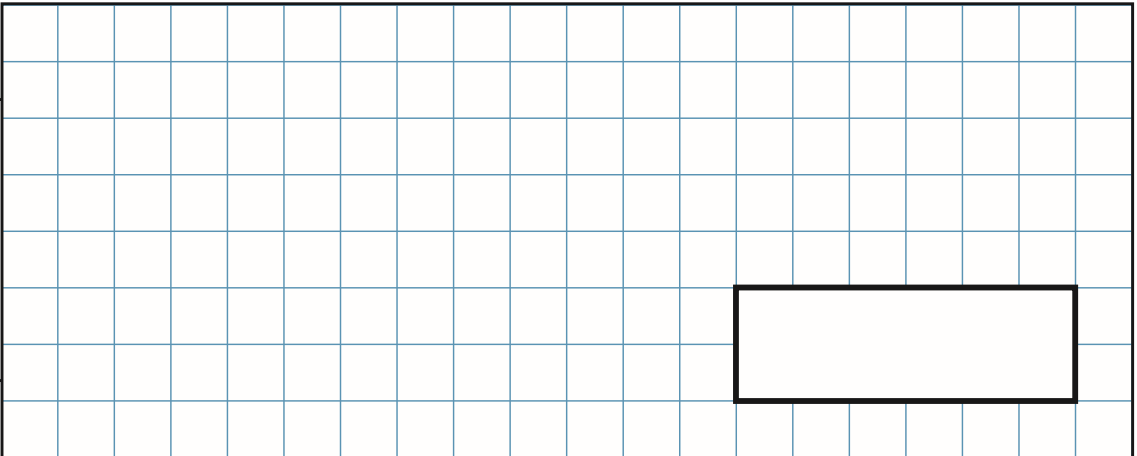
Marks

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

1. 67 children attend chess club.
26 different children attend maths club.
Nobody attends both clubs.
There are 600 children in the school.



Show your method



2 marks

How many children do not attend either club?

Match the numbers to their word form.

2.

One has been done for you.

19,300

One thousand, nine hundred and thirty

1,930

One hundred and nine

1,090

Nineteen thousand, three hundred

190

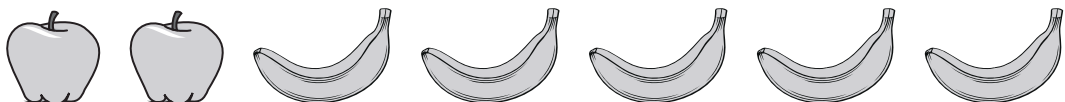
One hundred and ninety

109

One thousand and ninety

2 marks

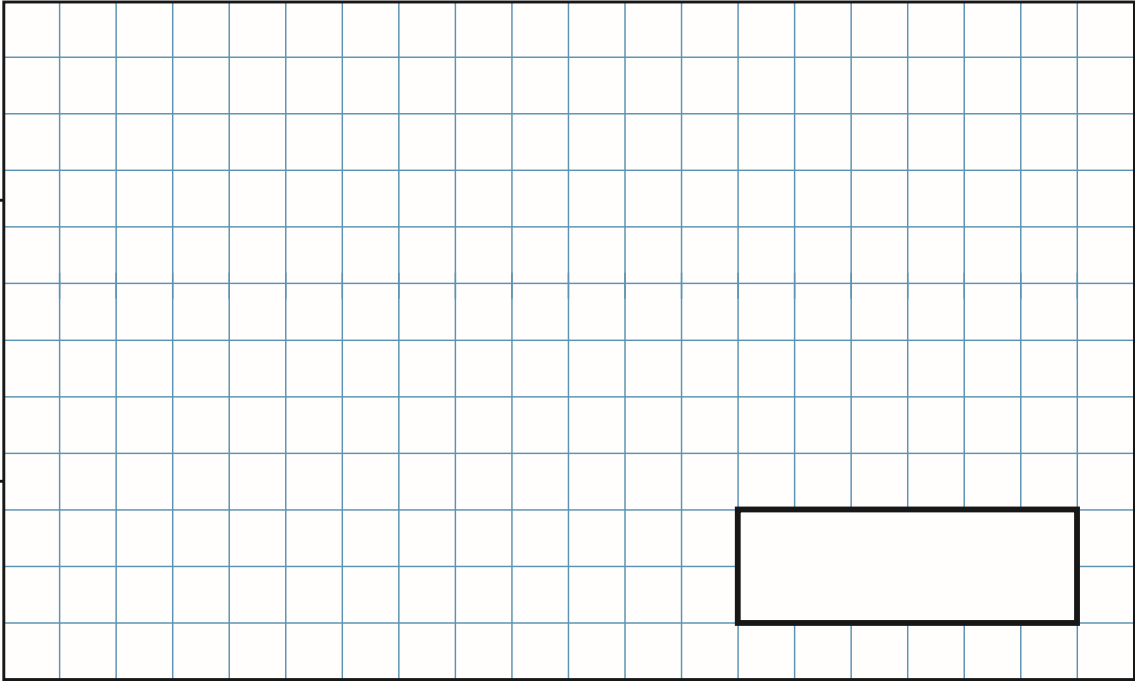
3. In a fruit bowl, there are 2 apples for every 5 bananas.



There are 8 apples in the fruit bowl.



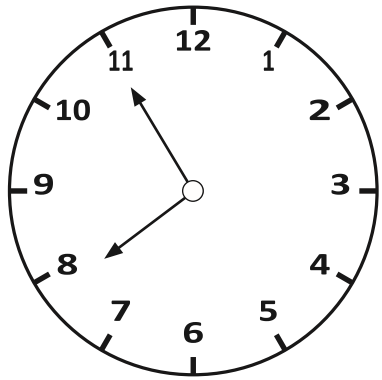
Show
your
method



2 marks

How many pieces of fruit are there in the fruit bowl in total?

4. What time is shown on the clock?



Circle **all** the possible answers.

08:55

07:55

08:11

19:55

ark

5. John leaves his house at 13:56
 His walk to school takes 35 minutes.

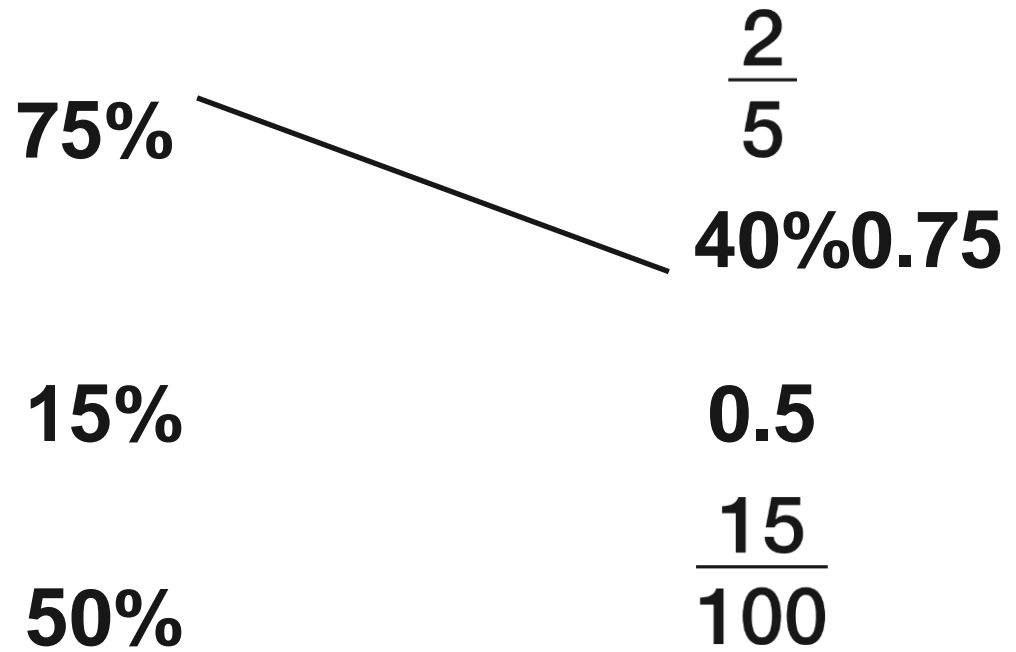
What time does John arrive at school?

Show your method

1 mark

6. Match each percentage to the correct equivalent.

The first one has been done for you.

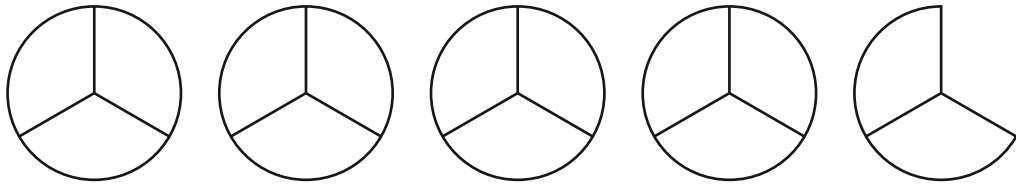


2 marks

7. What is 10 more than $4\frac{2}{3}$?

ark8.

How many thirds are there in $4\frac{2}{3}$?



1 mark

9. Filip says there are double the amount of sixths than thirds in $4\frac{2}{3}$?

Is

Filip correct?

Explain your answer.

10. A soft toy costs £4.50

1 mark

A suitcase costs ten times as much.

How much does the soft toy and suitcase cost in total?

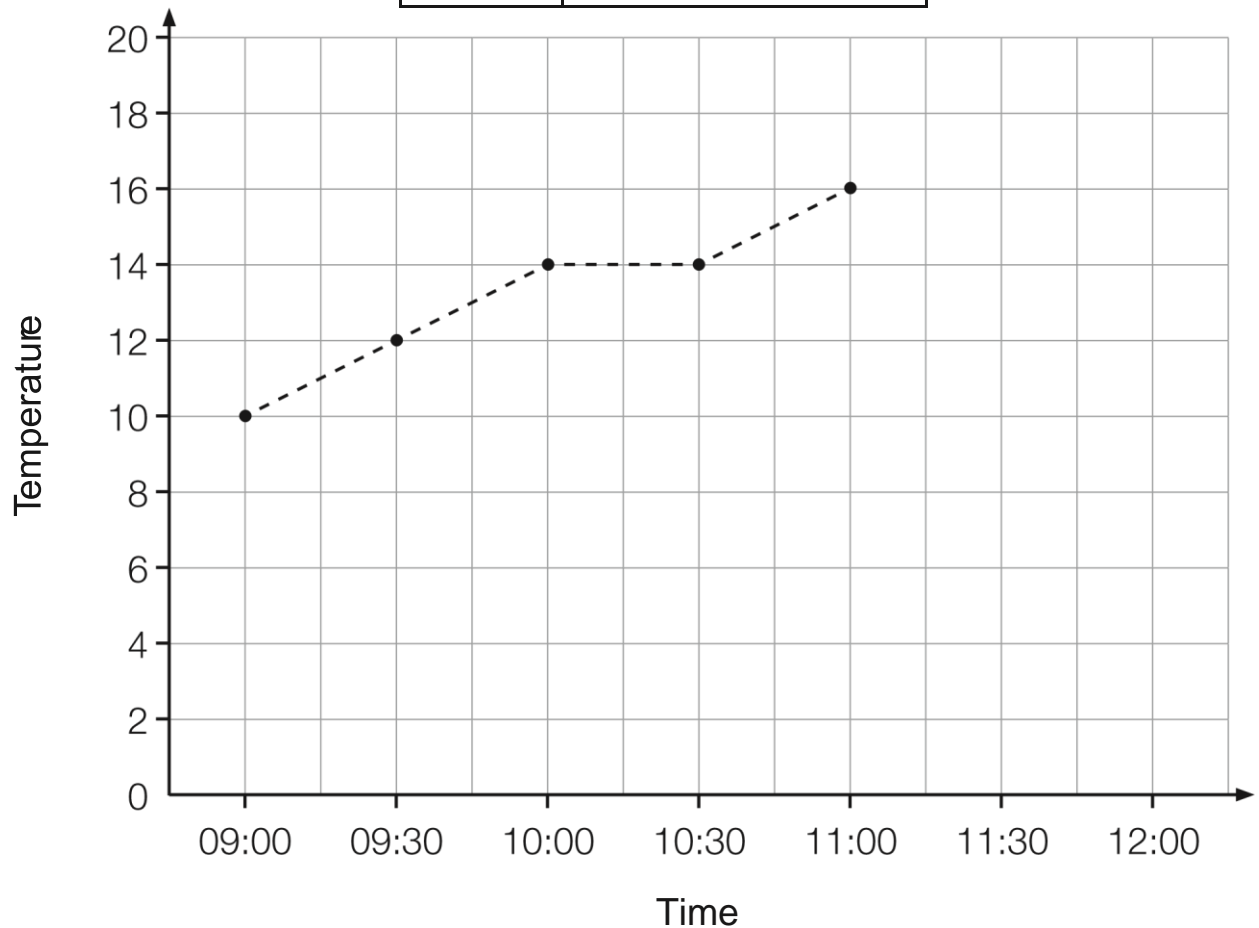
Show
your
method

A large grid for showing the method to solve the problem. A small box on the right side of the grid contains the symbol '£'.

2 marks

11. Use a ruler to complete this line graph.

Time	Temperature (°C)
09:00	10
09:30	12
10:00	14
10:30	14
11:00	16
11:30	17
12:00	18



12. Morgan is running a 10 kilometre race.

So far, she has run 1,340 metres.

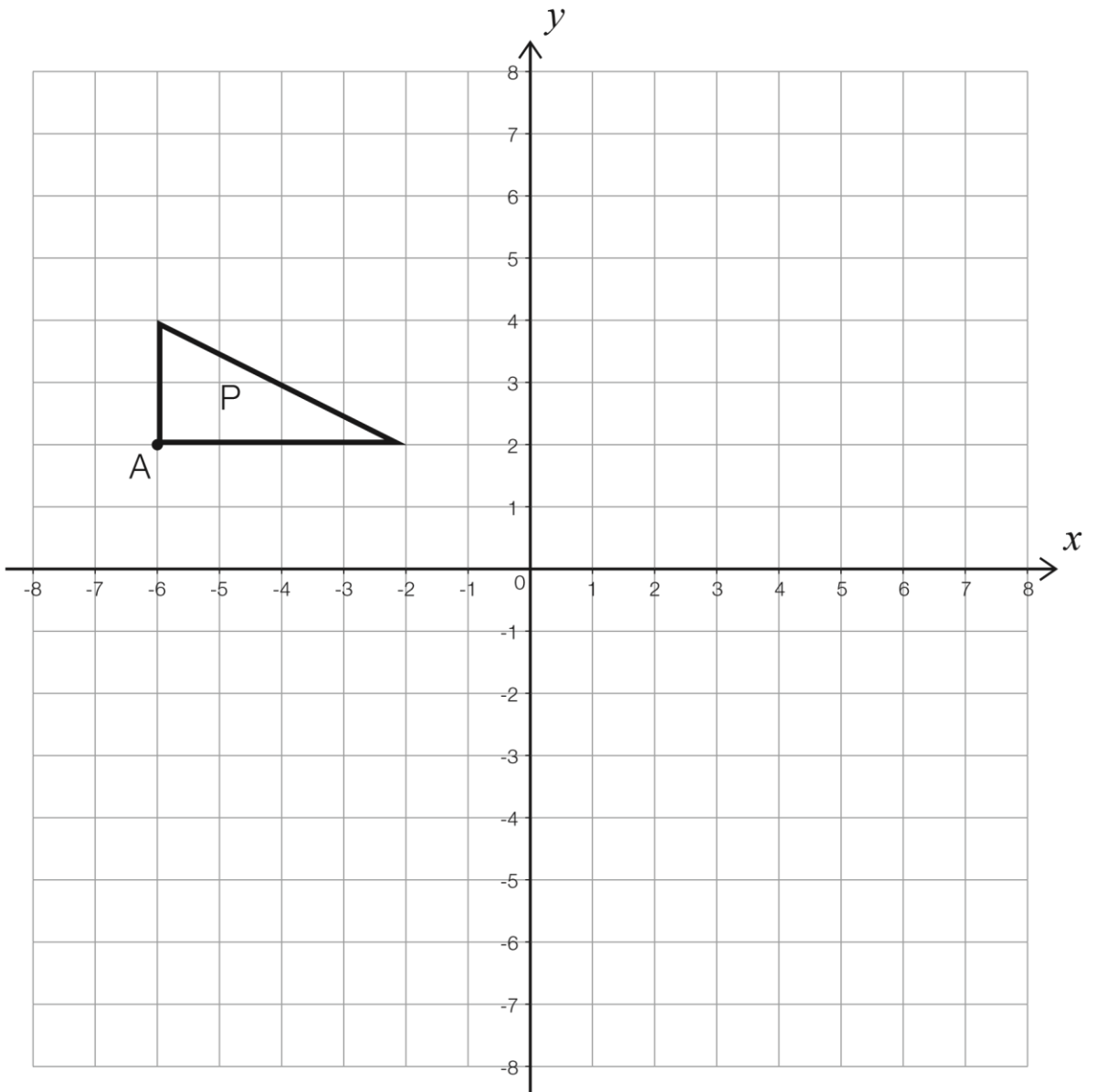
How far does she have left to run?

Show
your
method

A large grid for showing the method. A box on the right side of the grid contains the letter 'm'.

1 mark

13.



1 mark

Triangle P is reflected in the x -axis

Draw the reflection on the grid.

Label your shape Q.

Triangle P is now translated 7 units right and 3 units up.

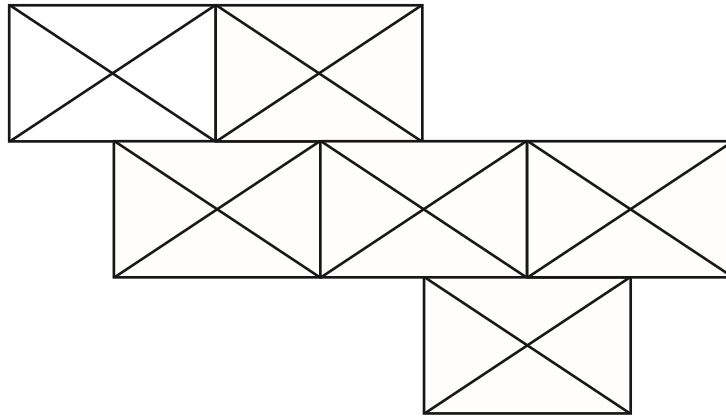
What are the co-ordinates of the vertex labelled A after the translation?

1 mark

(,)

14.

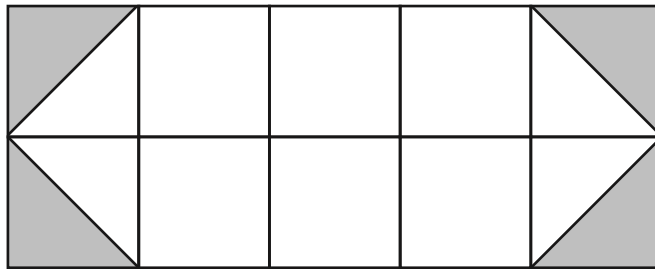
Shade $\frac{2}{3}$ of the shape below.



1 mark

15. Sam says,

“20% of the shape is shaded.”

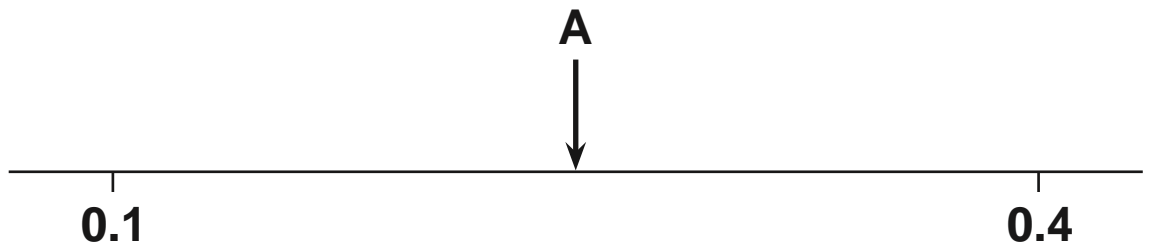


Do you agree with Sam?

Explain your answer.

1 mark

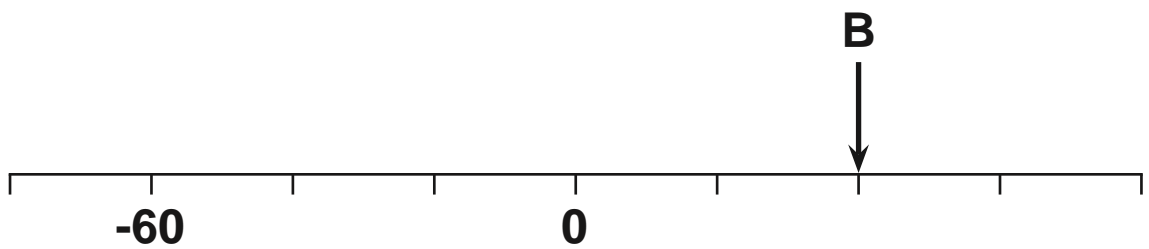
16. A is half way between 0.1 and 0.4



What is the value of A?

1 mark

What is the value of B?



Complete the missing number.

17.

$$\frac{\boxed{\quad}}{6} \text{ of } 132 = 88$$

1 mark

Explain all the steps in your working.

1 mark

1 mark

18.



A bottled drink is made up of 120 ml of juice and the rest is water.

Water makes up $\frac{3}{5}$ of the drink.

How much water would be needed for 6 bottles of drink?

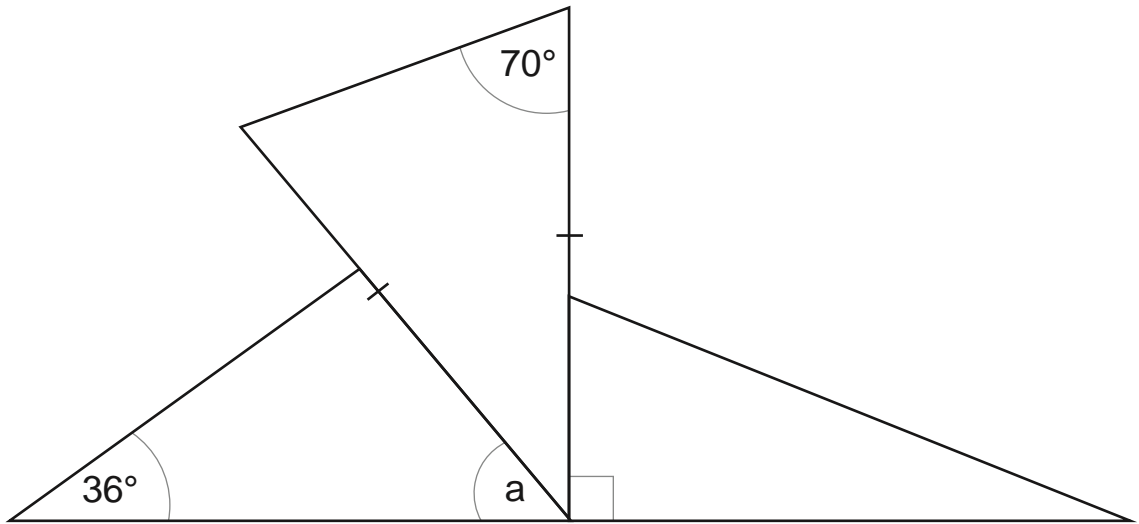
Show
your
method

A large grid of 20 columns and 15 rows. A rounded rectangle on the left side of the grid contains the text "Show your method". In the bottom right corner of the grid, there is a rectangular box containing the text "ml".

2 marks

19. The shape below is made of an isosceles triangle, a scalene triangle and a right-angled triangle.

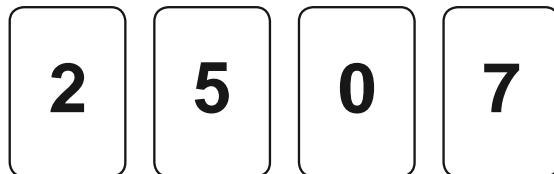
Calculate the size of angle a.



Show
your
method

2 marks

20. Ajay has these four digit cards.



What is the **mean** of Ajay's cards?

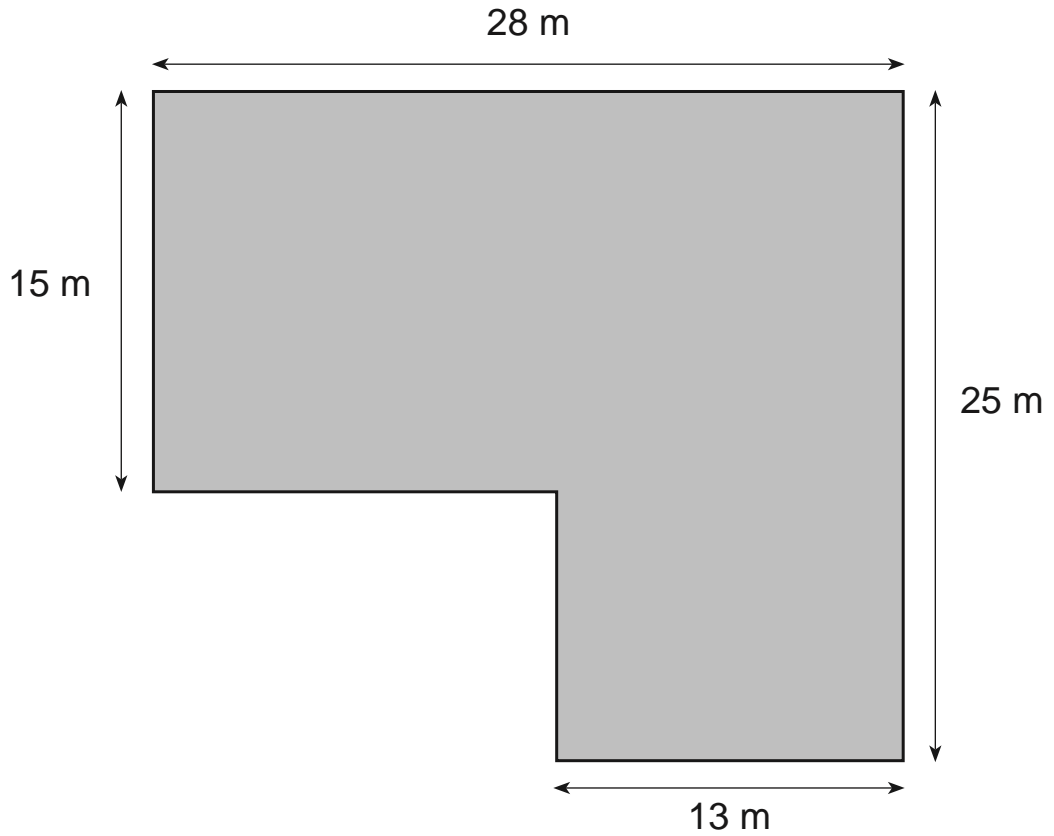
 1 mark

21. Ajay removes one of the cards. The mean of the new cards is 4
Which card did he remove?

Explain your answer.

 1 mark

22. The diagram shows a field.



5 sheep need 350 m^2 of field.

Is the field big enough for 10 sheep?

Yes

No

You must show all your working out.

23.

$$2y + 3x = 12$$

If $x = 2$, find the value of y

$y =$

2 marks

24.

Ben says,

“All prime numbers are odd”



Do you agree?

Yes

No

Explain your answer.

2 marks

25. Sam buys 20 metres of fabric.

He uses $\frac{3}{10}$ of it to make a dress.

He uses $2\frac{1}{3}$ metres to make some trousers.

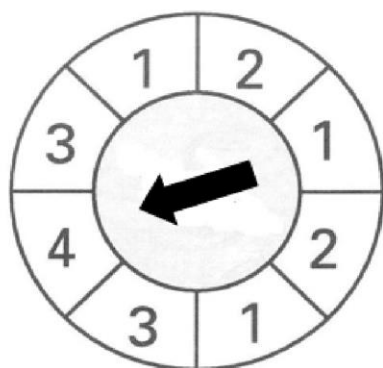
Show
your
method

A large grid for showing the method. A small box with the letter 'm' is located in the bottom right corner of the grid.

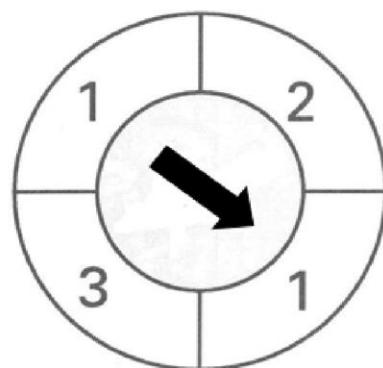
How many metres does he have left?

3 marks

26. Lee has two spinners



A



B

A. What is the probability of spinning a 4 on spinner A?

1 mark

B. On which spinner is he more likely to get a 1?

Explain your answer.

1 mark