

2016 national curriculum tests

Key stage 2

Mathematics

Paper 2: reasoning

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



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Instructions

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

Questions and answers

You have **40 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.

Do not write over any barcodes.

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 a question, **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

Ali puts these five numbers in their correct places on a number line.

511

499

502

555

455

Write the number **closest** to 500

1 mark


Write the number **furthest** from 500

1 mark




2

A




£135,300

B




£119,125

C




£130,500

D



£131,500

E



£91,500

Put these houses in order of price starting with the **lowest price**.

One has been done for you.

_____ **B** _____

lowest _____

1 mark



3

Write the three missing digits to make this **addition** correct.

$$\begin{array}{r} 15\boxed{} \\ + 4\boxed{}4 \\ \hline \boxed{}15 \end{array}$$

2 marks

4

This table shows the number of people living in various towns in England.

| Town | Population |
|---------|------------|
| Bedford | 82,448 |
| Carlton | 48,493 |
| Dover | 34,087 |
| Formby | 24,478 |
| Telford | 166,640 |

What is the **total** of the numbers of people living in Formby and in Telford?

1 mark

What is the **difference** between the numbers of people living in Bedford and in Dover?

1 mark



E 0 0 0 7 0 A 0 7 2 4

5

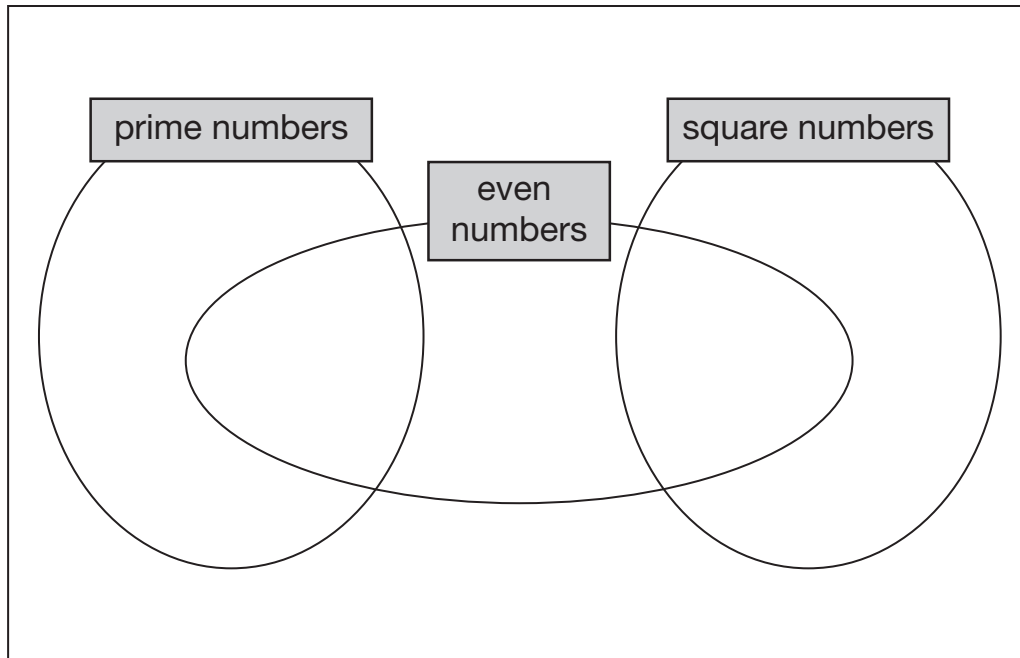
Write each number in its correct place on the diagram.

16

17

18

19



2 marks

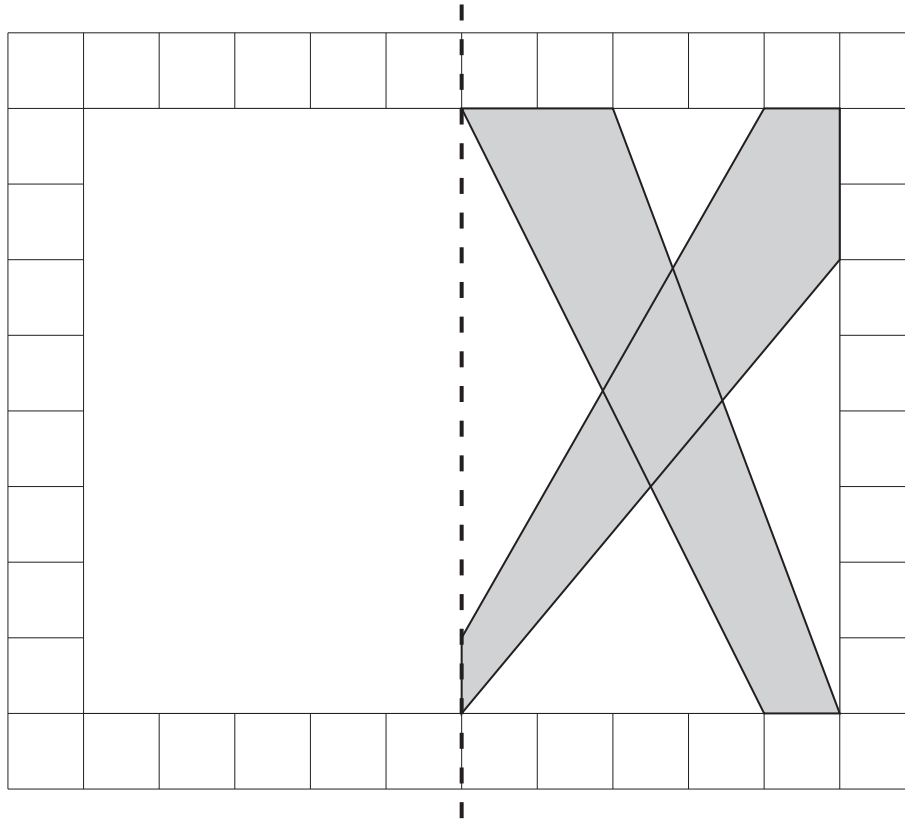


6

This diagram shows a shaded shape inside a border of squares.

Draw the reflection of the shape in the mirror line.

Use a ruler.



mirror line

1 mark



7

Write the two missing values to make these equivalent fractions correct.

$$\frac{\square}{3} = \frac{8}{12} = \frac{4}{\square}$$

1 mark_____
1 mark

8

Circle two numbers that add together to equal **0.25**

0.05

0.23

0.2

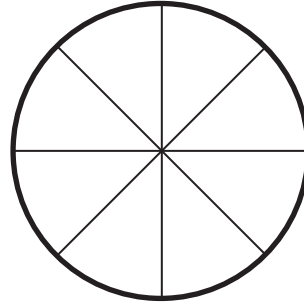
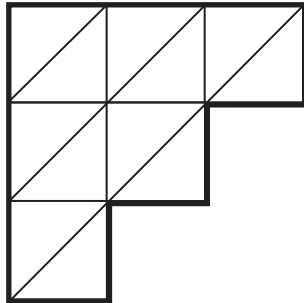
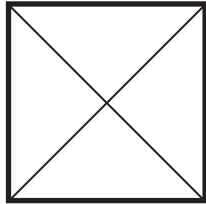
0.5

1 mark

10

Each diagram below is divided into equal sections.

Shade three-quarters of each diagram.



2 marks

11

A packet contains 1.5 kg of oats.



Every day Maria uses 50g of oats to make porridge.

How many days does the packet of oats last?

| | | | | | | | | | | | | |
|------------------|---|--|--|--|--|--|--|--|--|--|--|--|
| Show your method | <div style="border: 1px solid black; padding: 5px; display: inline-block;"> days </div> | | | | | | | | | | | |
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2 marks



12

$$n = 22$$

What is $2n + 9$?

1 mark

$$2q + 4 = 100$$

Work out the value of q .

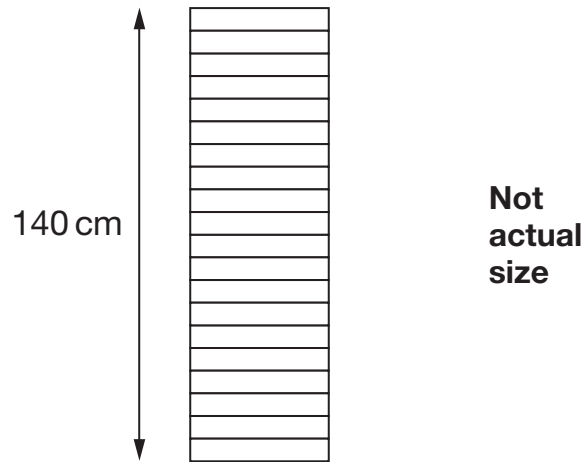
$q =$

1 mark



13

A stack of 20 identical boxes is 140 cm tall.



Stefan takes **three** boxes off the top.

How tall is the stack now?

Show
your
method

cm

2 marks



14

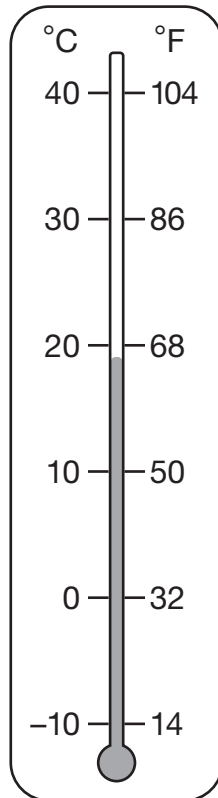
Write **all** the common multiples of 3 and 8 that are **less than 50**

1 mark



15

This thermometer shows temperatures in both °C and °F.



Work out what **25°C** is in °F.

Show
your
method

| | |
|--|----|
| | °F |
|--|----|

2 marks

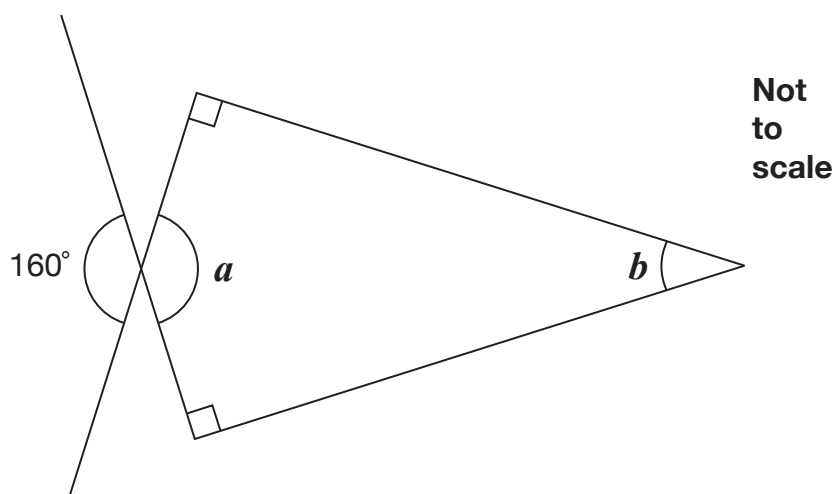


16Write the number that is five less than **ten million**.

1 markWrite the number that is one hundred thousand less than **six million**.

1 mark

17

Calculate the size of angles a and b in this diagram.

$$a = \boxed{^\circ}$$

1 mark

$$b = \boxed{^\circ}$$

1 mark

18

Write the missing number.

$$70 \div \boxed{} = 3.5$$

1 mark



19

Miss Mills is making jam to sell at the school fair.

Strawberries cost £7.50 per kg.

Sugar costs 79p per kg.

10 glass jars cost £6.90

She uses 12 kg of strawberries and 10 kg of sugar to make 20 jars full of jam.

Calculate the total cost to make 20 jars full of jam.

Show
your
method

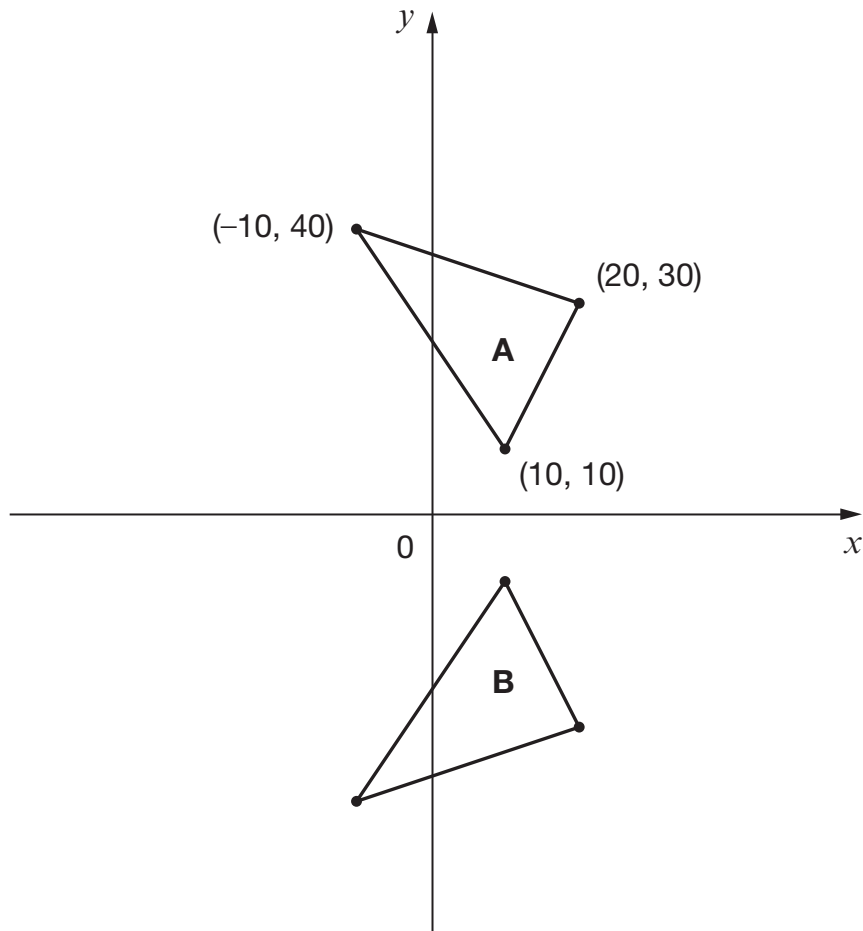
£

3 marks



20

Here are two triangles drawn on coordinate axes.



Triangle B is a reflection of triangle A in the x -axis.

Two of the new vertices of triangle B are $(10, -10)$ and $(20, -30)$.

What are the coordinates of the **third** vertex of triangle B?

1 mark



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2016 key stage 2 mathematics

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