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						

E 0 0 0 7 0 A 0 1 2 4

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Instructions

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

Questions and answers

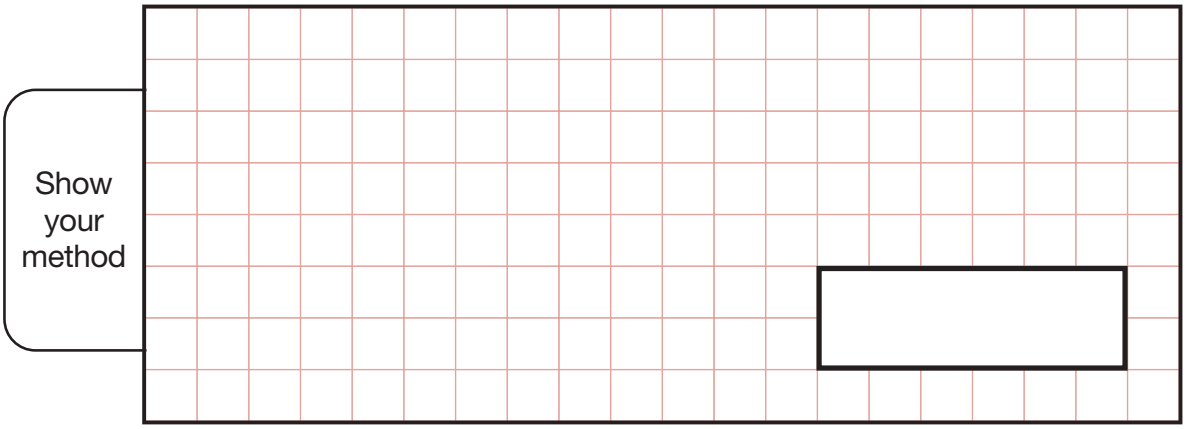
You have **40 minutes** to complete this test.

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:



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

E 0 0 0 7 0 A 0 4 2 4

2



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.

$$\begin{array}{r} 1\ 5\ \square \\ +\ 4\ \square\ 4 \\ \hline \square\ 1\ 5 \end{array}$$

2 marks

E 0 0 0 7 0 A 0 6 2 4

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?

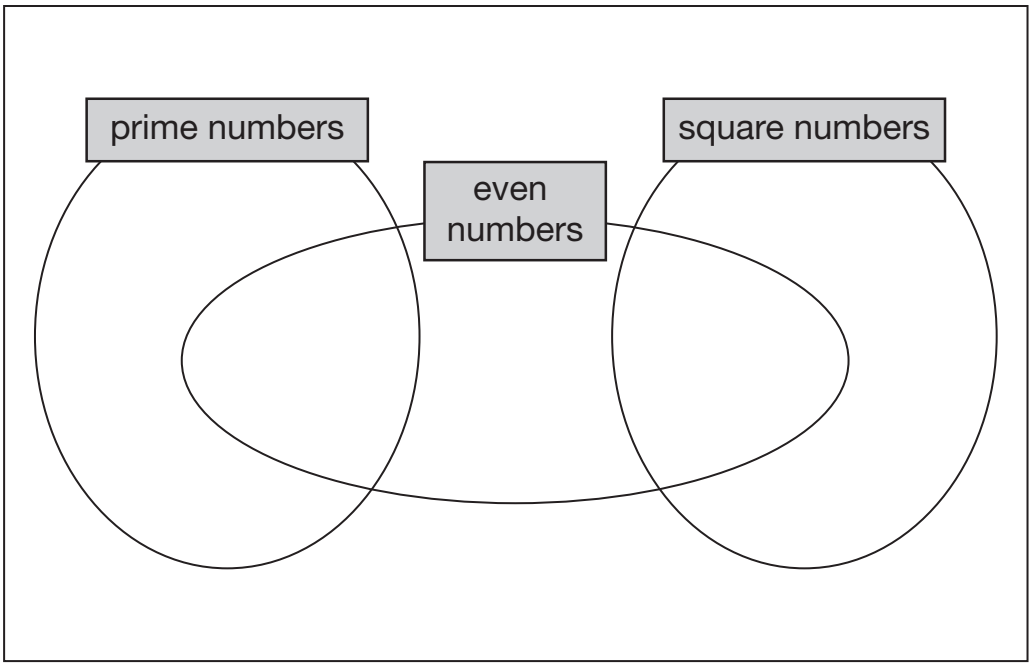
1 mark

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

1 mark

5 Write each number in its correct place on the diagram.

16 17 18 19



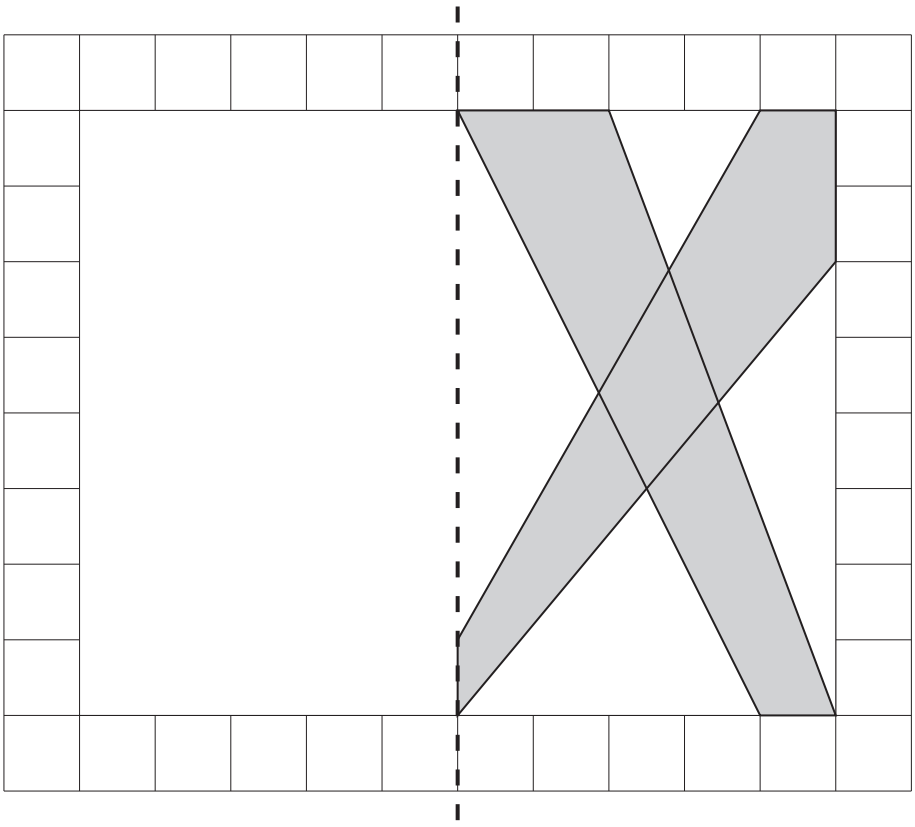
2 marks

E 0 0 0 7 0 A 0 8 2 4

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.



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

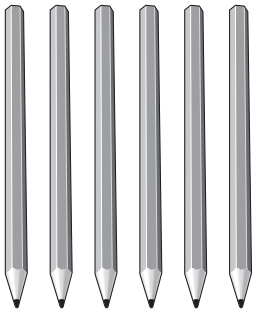
8 Circle two numbers that add together to equal **0.25**

0.05 0.23 0.2 0.5

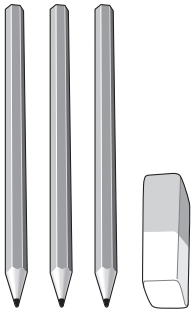
1 mark

9

6 pencils cost **£1.68**

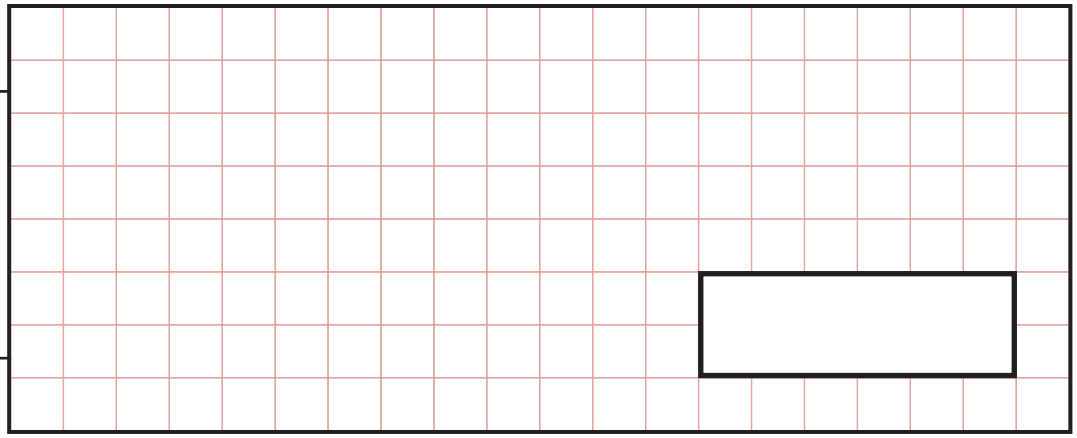


3 pencils and 1 rubber cost **£1.09**



What is the cost of **1 rubber**?

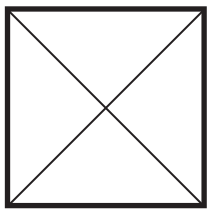
Show your method

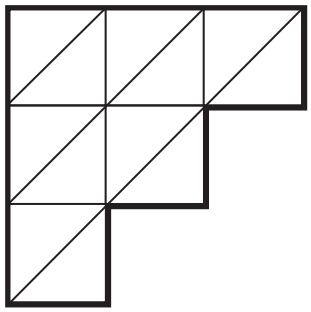


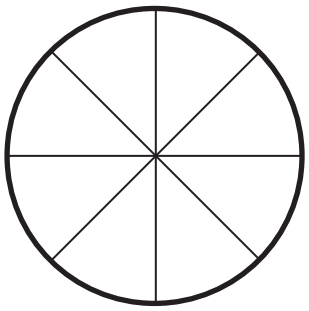
2 marks

10 Each diagram below is divided into equal sections.

Shade three-quarters of each diagram.



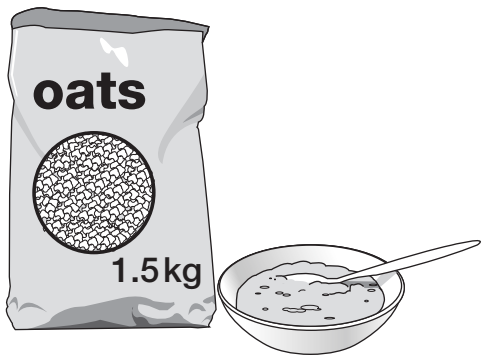




2 marks

E 0 0 0 7 0 A 0 1 2 2 4

11 A packet contains 1.5 kg of oats.



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

How many days does the packet of oats last?

Show your method

days

2 marks

12 $n = 22$

What is $2n + 9$?

1 mark

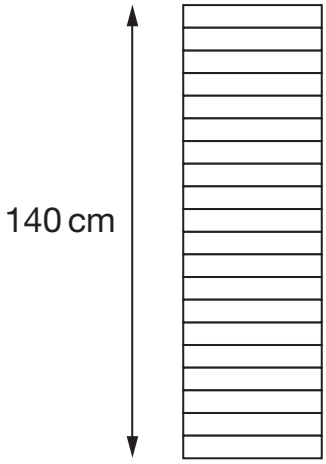
$2q + 4 = 100$

Work out the value of q.

$q =$

1 mark

13 A stack of 20 identical boxes is 140 cm tall.



Not actual size

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

How tall is the stack now?

Show your method

cm

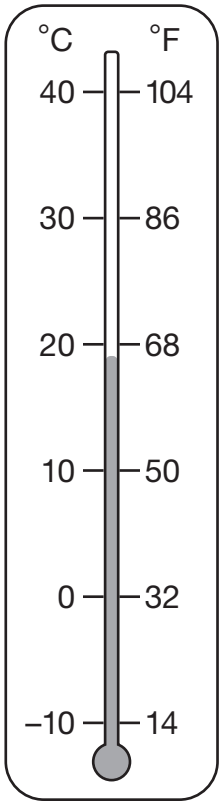
2 marks

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

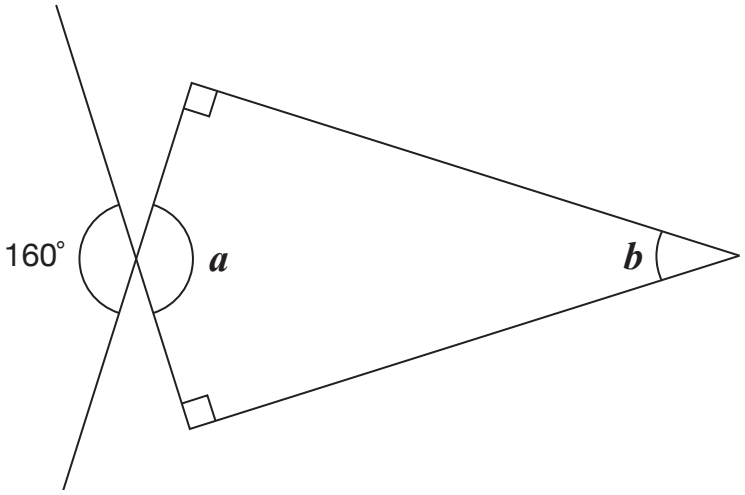
16 Write the number that is five less than **ten million**.

1 mark

Write 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.



Not to scale

a = ☐ °

1 mark

b = ☐ °

1 mark

18 Write the missing number.

70 ÷ ☐ = 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.

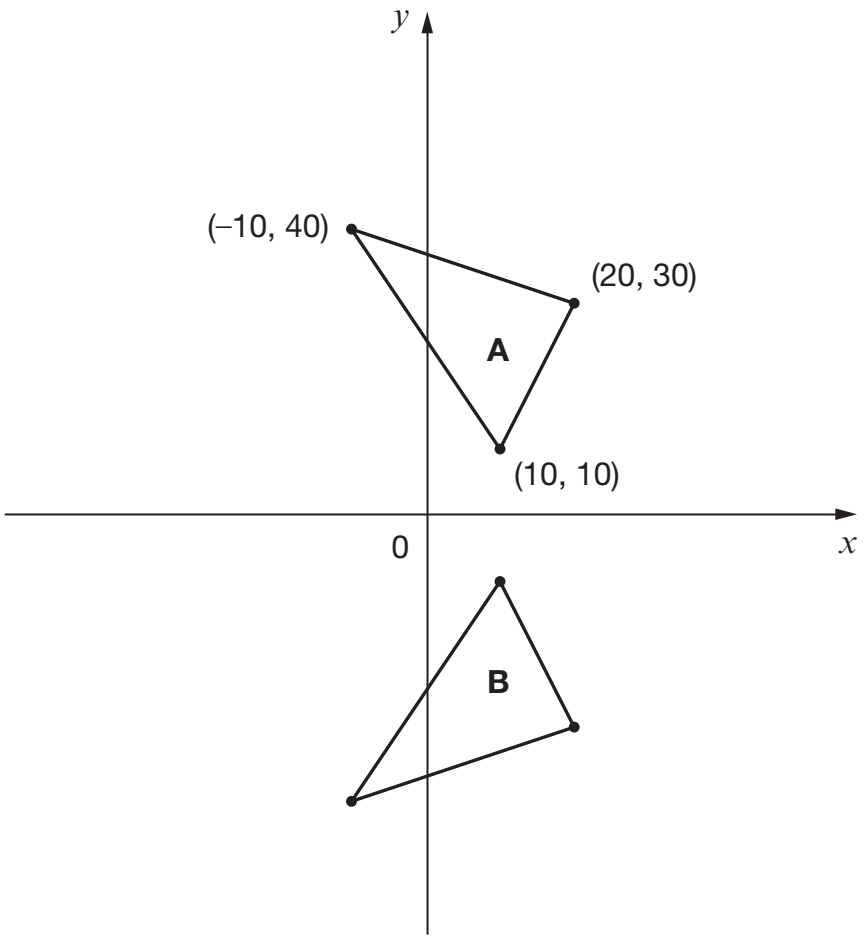
Calculate the total cost to make 20 jars full of jam.

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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Standards & Testing Agency

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