National curriculum tests

Key stage 2

Practice Paper: Reasoning   R1

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

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IMPROVING MATHEMATICS EDUCATION SINCE 2004
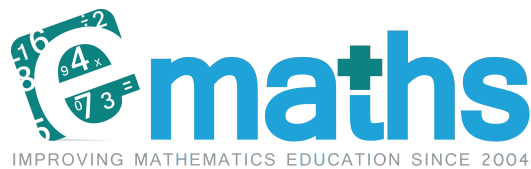
Key Stage 2 National Curriculum Tests - Practice Paper - Reasoning

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 one of the questions, **go on to the next one.**
You can come back to it later, if you have time.

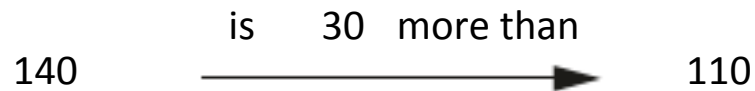If you finish before the end, **go back and check your work.**

Marks

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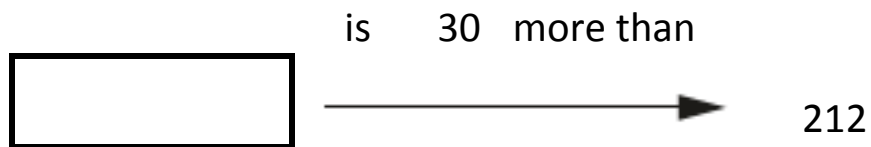number of marks for each question.

1   Write the missing number.

One is done for you.

is   30   more than

140 ──────────────▶ 110

is   30   more than
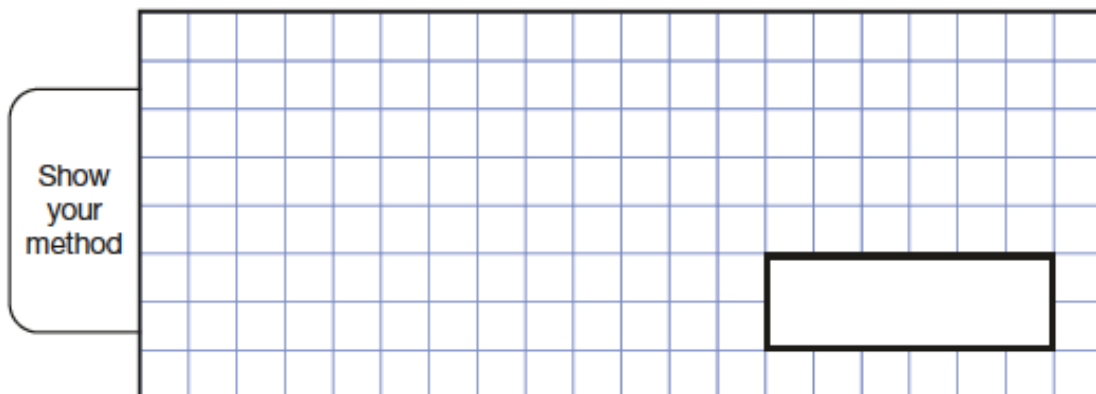
[   ] ──────────────▶ 212

_____
1 mark

2   A packet of paper has   180 sheets

5 children each take   8   sheets

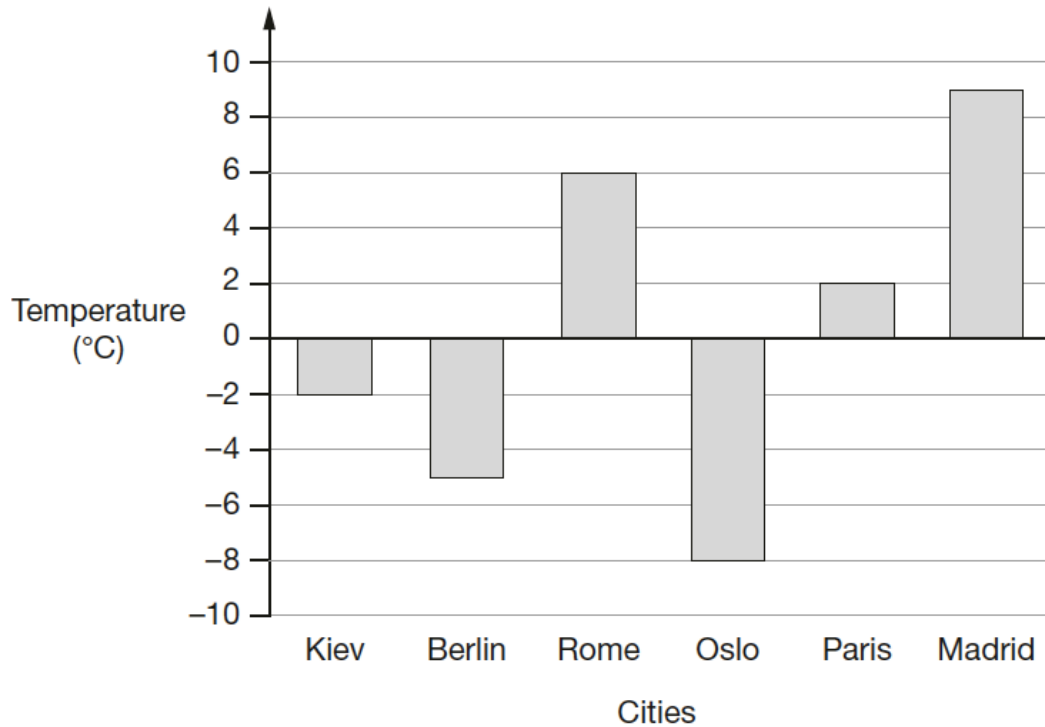How many sheets of paper are left in the packet?

Show
your
method

_____
2 marks

3 This graph shows the temperature in six cities on a day in January.

Which city was **10** degrees **warmer** than **Oslo?**

_____

What was the **difference** between the temperature in **Berlin** and the temperature in **Rome?**
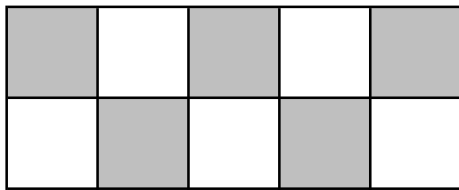
°C

R1

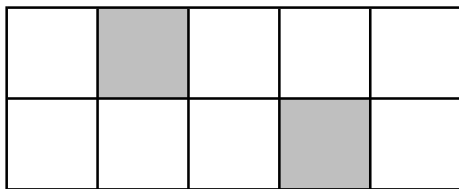**4** Here are some shapes made of squares.

A fraction of each shape is shaded.
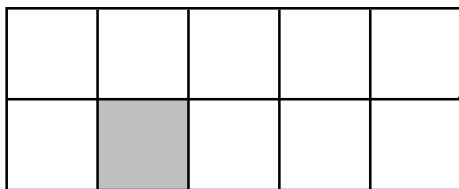
Match each shape to its equivalent fraction.

One has been done for you.

$\frac{1}{10}$

$\frac{4}{10}$

$\frac{1}{2}$

$\frac{1}{5}$

$\frac{3}{10}$

_____
2 marks

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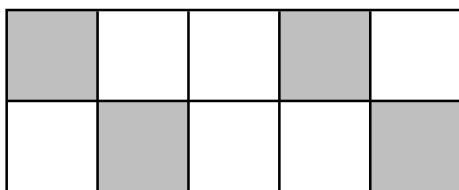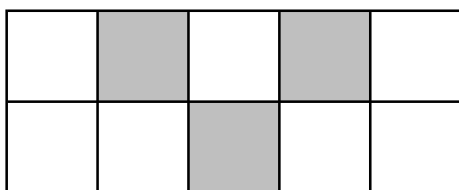
5   What is   **413**   minutes in hours and minutes?

hours	minutes

_____
1 mark

6   Jane's   watch shows five minutes past nine.

The watch is   fifteen   minutes   fast

What is the correct time?

_____
1 mark

7 In the squares, write a multiple that belongs to each set.

One has been done for you.

| numbers from 1 to 99 | multiple of | **20** | 80 |

| numbers from 101 to 199 | multiple of | **40** | |

| numbers from 201 to 299 | multiple of | **10** | |

| numbers from 301 to 399 | multiple of | **50** | |

_____
2 marks

8   Milly   bakes cakes and sells them in bags.

She uses this formula to work out how much to charge for one bag of cakes.

> Cost = number of cakes ×   25 p   +   10 p   for the bag

How much will a bag of   12   cakes cost?

£

1 mark

Olivia   buys a bag of cakes for   £4.85

Use the formula to calculate how many cakes are in the bag.

Show your method

cakes

2 marks

9 Here is a triangle.
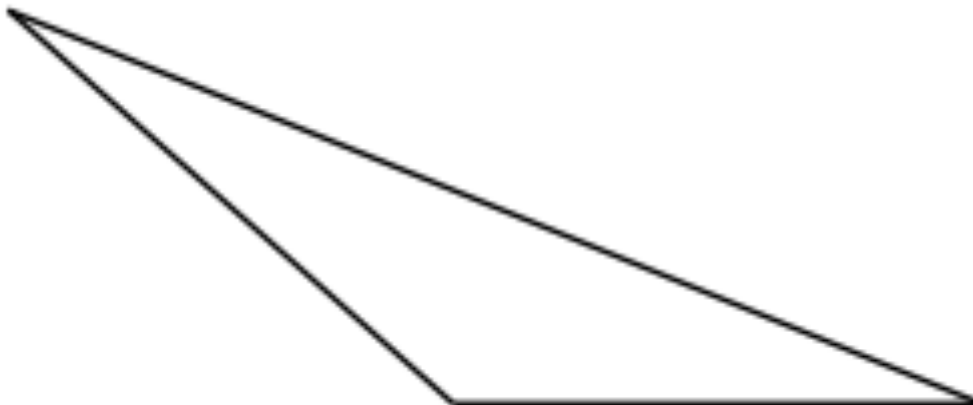
Measure the   shortest   side accurately, in centimetres.

cm

_____
1 mark

Measure the   largest   angle.

o

_____
1 mark

10 Write the missing digits to make this long multiplication correct.

```
            2  □
    ×       □  7
    ─────────────
         1  6  8
         9  6  0
    ─────────────
    1    1  2  8
```

2 marks

11 Here is a number written in Roman numerals.

CXXVI

Write the number in figures

_____
1 mark

12 What number is halfway between   1.6   and   2.5 ?

_____
1 mark

13 Round 152,825

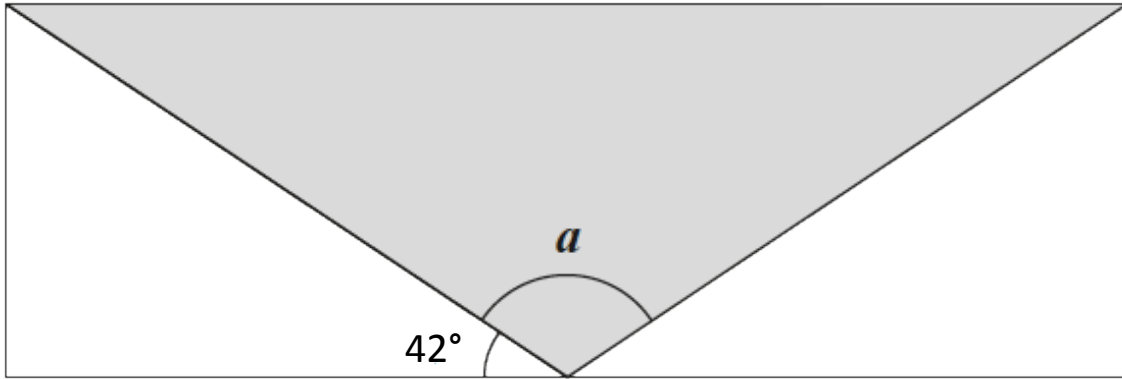to the nearest 10,000

to the nearest 1,000

to the nearest 100

_____
2 marks

14 A shaded isosceles triangle is drawn inside a rectangle.

42°   *a*

Not to scale

Calculate the size of angle a.

Show your method

a is [ ] °

2 marks

15 Large pizzas cost £7.95 each.

Small pizzas cost £5.50 each.

 4 children together buy 2 large pizza and 4 small pizzas.

They share the cost equally.

How much does each child pay?

Show your method

£

2 marks

16 Seven chidren measure their heights.

Child	Height (cm)
Simon	146
Shannon	132
Poppy	144
Amir	150
Julia	143
Ismail	147
Sarah	153

What is the mean height of the children?
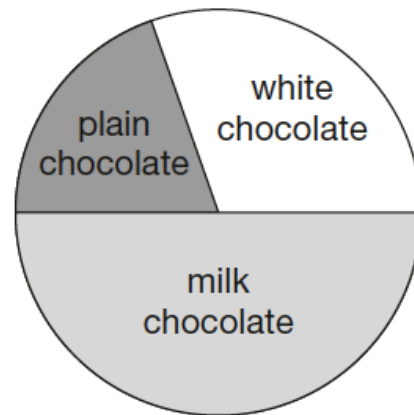
Show your method

cm

2 marks

17   120   girls and   70   boys were asked which kind of chocolate they like best.

These two pie charts show the results.

120 girls   70 boys

Dan says,

"The pie charts show that more girls than boys liked milk chocolate best."

Dan is correct.

Explain how you know.
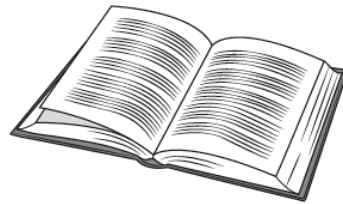
1 mark

18   One gram of gold costs £33.05

What is the cost of half a kilogram of gold?

Show your method

£

2 marks

19   On Saturday, Lara read $\frac{3}{4}$ of her book.

On Sunday, she read the other 80 pages to finish her book.

How many pages are there in Lara's book?

Show your method

pages

2 marks