Key Stage 2 (2018)

Mathematics

Paper 2: reasoning

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

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Please do not write on this page.

Instructions

You must 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 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 a question, go to the next one.

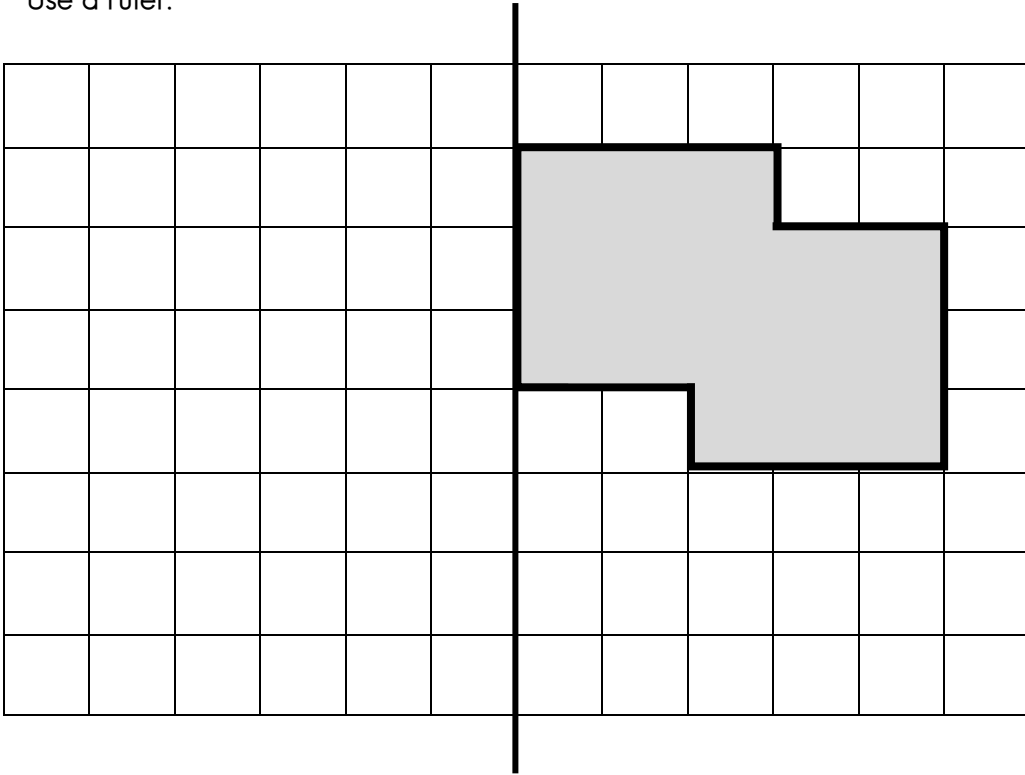You can come back to it later, if you have time.

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

1

Here is a shape on a grid.

Complete the design so it is symmetrical about the mirror line.

Use a ruler.

1 mark

2

Bilal completes this calculation.

4 3

$+$ 3 8

8 1

Write a **subtraction calculation** he could use to check his answer.
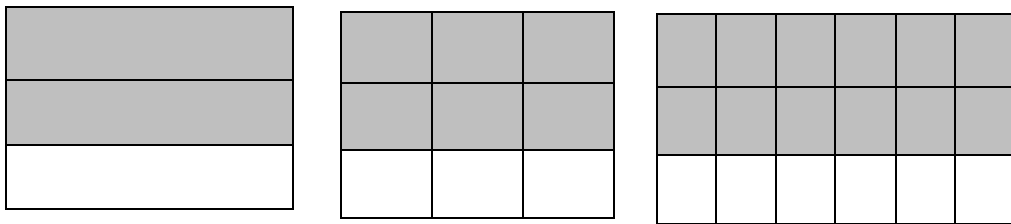
$-$

1 mark

3 On the line below, mark the point that is **5.6 centimetres** from X.

X

4 These three diagrams show three equivalent fractions.

Write the missing values.

$$\frac{2}{3} = \frac{6}{\Box} = \frac{\Box}{18}$$

5 Here are the temperatures in four cities at midnight and midday.

City	Temperature	
	At midnight	At midday
London	-5°C	8°C
Madrid	9°C	17°C
New York	-7°C	14°C
Cairo	0°C	26°C

At **midday**, how many degrees warmer was New York than London?

degrees

_____

1 mark

Which city was 13 degrees colder at midnight than at midday?

_____   _____

1 mark

6 The numbers in this sequence increase by the same amount each time.

896,502   897,502   898,502   899,502

What is the next number in the sequence?

_____

1 mark

7

Tick two numbers that are equivalent to $\frac{1}{5}$

Tick two.

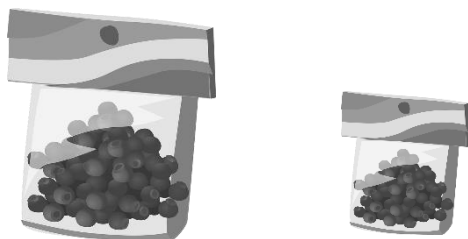$\frac{20}{100}$ ☐

0.5 ☐

$\frac{2}{6}$ ☐

0.2 ☐

0.15 ☐

1 mark

8

Jen buys 4 large bags and 2 small bags of sweets.

Each large bag has 36 sweets. Each small bag had 18 sweets.

How many sweets did Jen buy altogether?

Show your method

_____ sweets

2 marks

9

The list below shows the years in which the Women's Cricket World Cup was held since 1973:

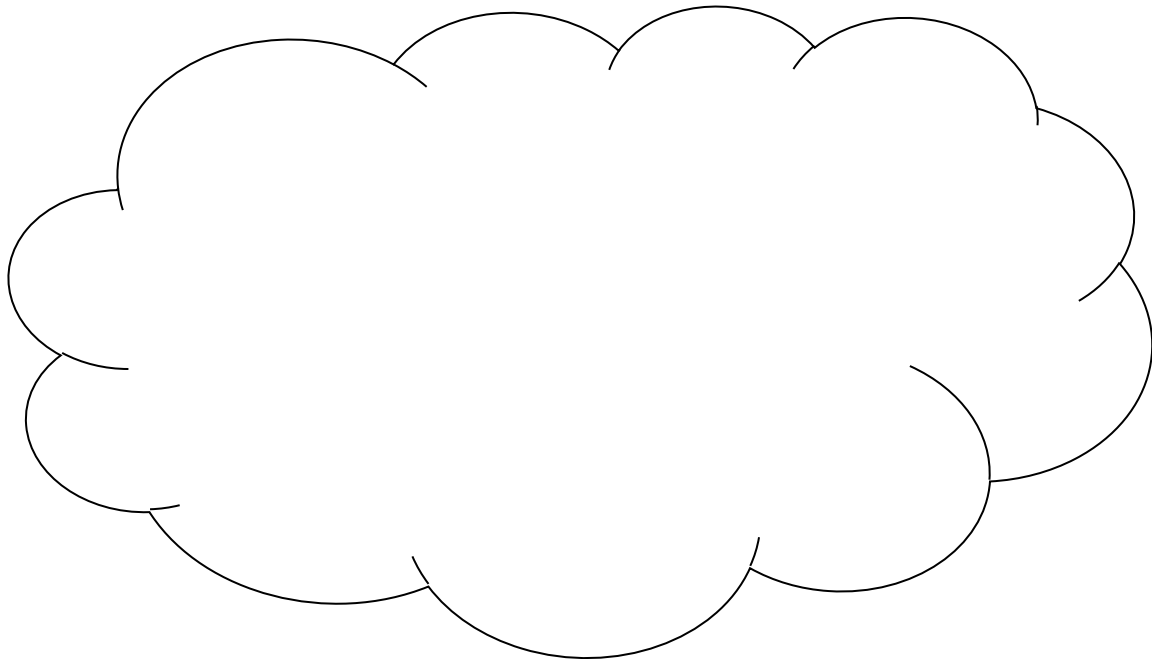1973, 1978, 1982, 1988, 1993, 1997, 2000, 2005, 2009, 2013, 2017

Anya says:

> The Women's Cricket World Cup has been held every four or for five years since 1973.
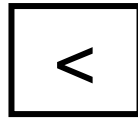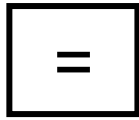
Anya is **not** correct.

Explain how you know.

_____
1 mark

10

| > | = | < |
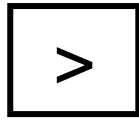
Write the correct symbol in each box to make the statement correct.

12 x 11   [   ]   13 x 10

80 ÷ 40   [   ]   70 ÷ 35

140 ÷ 7   [   ]   180 ÷ 9

50 x 6   [   ]   60 x 50

2 marks

11   Here is a drawing of a 3D shape.

Complete this table.

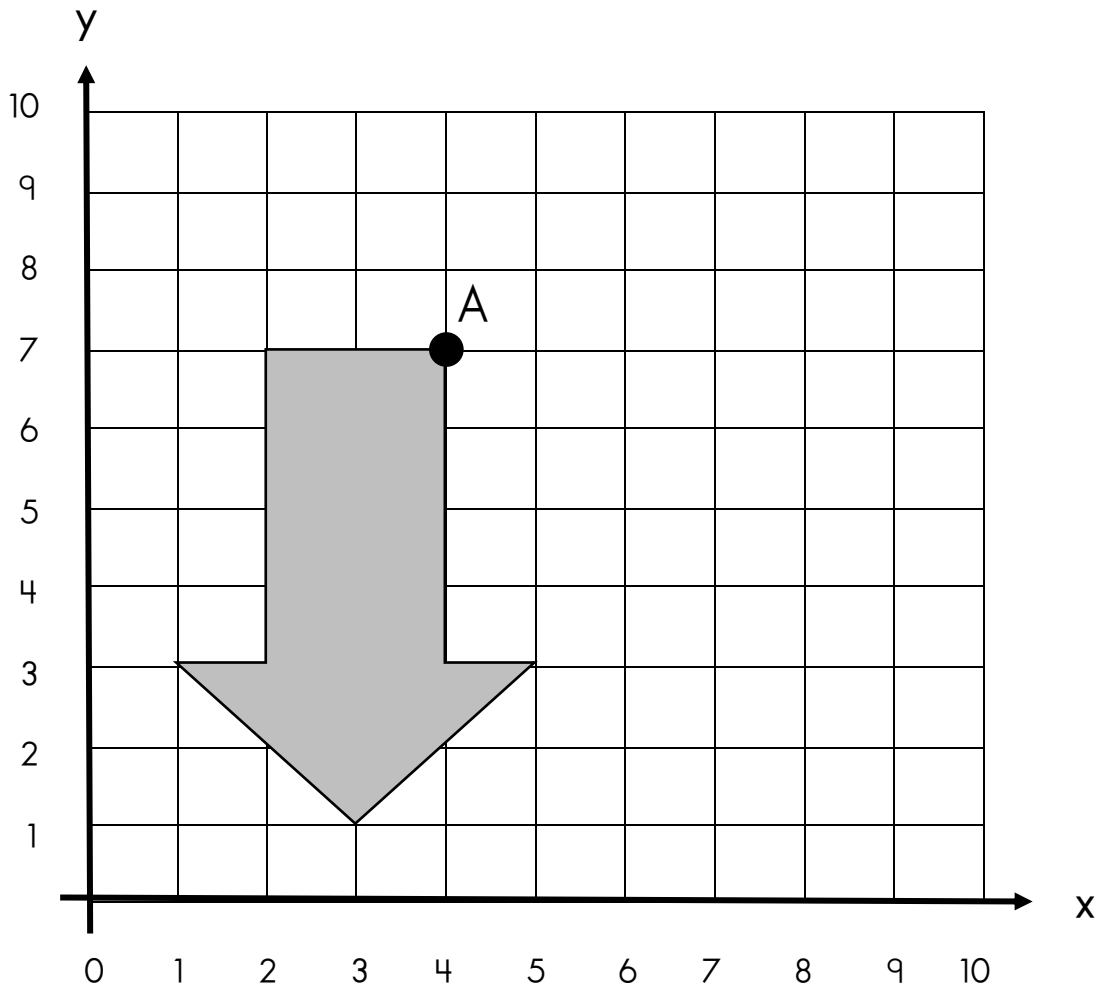| Number of faces	Number of vertices	Number of edges

2 marks

12 Here is a shape on a grid.

The shape is translated so that point A moves to (8,10).

Draw the shape in its new position.

Use a ruler.

13 Circle the improper fraction that is equivalent to $5\frac{3}{4}$

$\dfrac{34}{4}$ $\qquad$ $\dfrac{23}{4}$ $\qquad$ $\dfrac{54}{4}$ $\qquad$ $\dfrac{32}{4}$ $\qquad$ $\dfrac{24}{4}$

14

Write these fractions in order, starting with the **smallest**.

$$\frac{5}{8} \qquad \frac{4}{7} \qquad \frac{3}{8}$$

smallest

1 mark

15

A supermarket has 3 rooms containing boxes of pineapples.

There are 35 pineapples in each box.

There are 4 boxes in each room.

How many pineapples are there in total?

Show your method

pineapples

2 marks

16 Eve wants to use a mental method to calculate 176 + 98

She starts from 176.

Here are some methods that Eve could use.

Tick the methods that are **correct**.

add 100 then subtract 2 ☐

add two then subtract 100 ☐

add 90 then add 8 ☐

add two then add 90 ☐

2 marks

17 There are 32 pupils in a class.

The teacher has 8 litres of apple juice.

She pours 240ml of apple juice for each pupil

How much apple juice is left over?

Show your method

3 marks

18 Last year, Noah went to see five films at the cinema.

Two of his tickets cost £4

Three of his tickets cost £5.

> What was the **mean** cost of the tickets?

Show your method

£

19 Sally wants to estimate the answer to this calculation.

$$3\frac{9}{10} + 2\frac{6}{7} - 1\frac{1}{5}$$

> Tick the calculation below that is the best estimate.

Tick one.

3+2-1 ☐

4+2-1 ☐

3+3-2 ☐

4+3-1 ☐

20 The length of a human forearm can be estimated by:

- measuring the width of your palm.
- then multiplying that by 4.5

Using the information below, estimate the **difference** in length of each person's forearm.
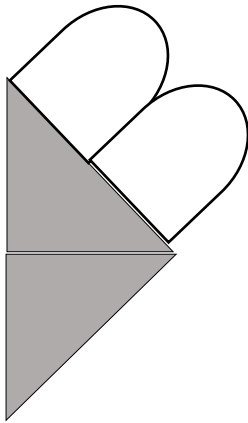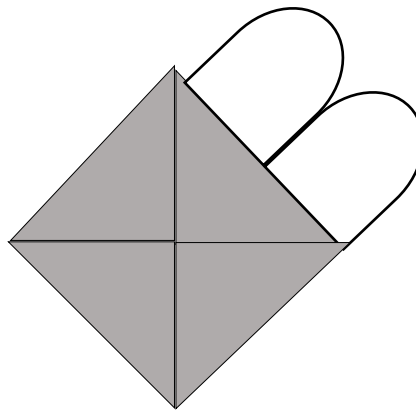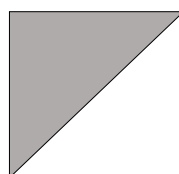
11cm

6cm

Show your method

cm
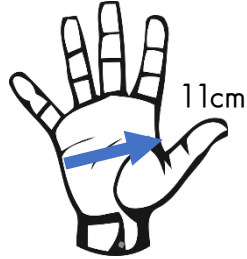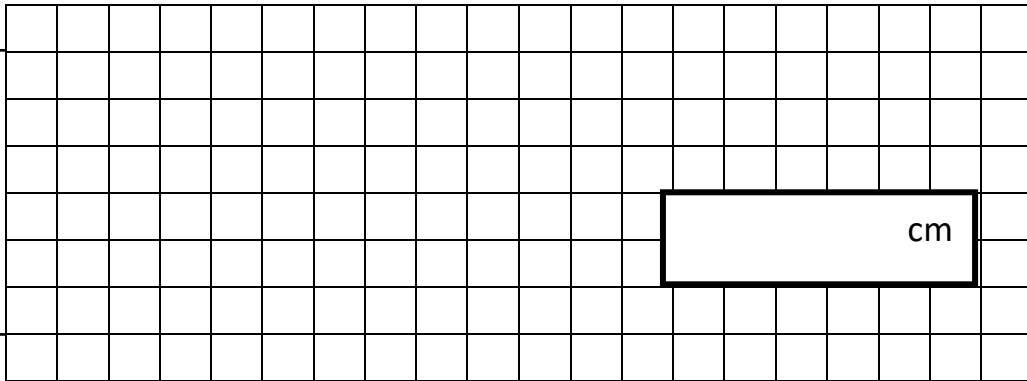
2 marks

21 Saneela is making designs with two different shapes. She gives each shape a value.

Total value is 110

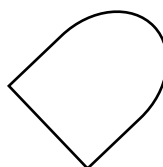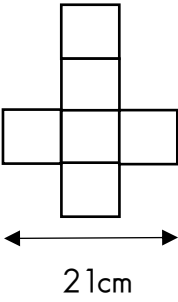Total value is 194

=

1 mark

=

1 mark

22 This is the net of a cube.

21cm

What is the volume of the cube?

cm³

23 The length of a day on Earth is 24 hours.

The length of a day on Venus is 243 times longer.

What is the length of a day on Venus, in **hours?**

Show your method

hours

Mr A, Mr C and Mr D Present
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SATs-style national curriculum tests
Reasoning Paper 2 (2019)

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