2024 national curriculum tests

Key stage 2

Mathematics

Paper 2: reasoning

First name	Polly					
Middle name						
Last name	Heedra					
Date of birth	Day	2	Month	2	Year	2023
School name	Saint Huberts					
DfE number	000/0000					

M00070A0124

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Instructions

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

Questions and answers

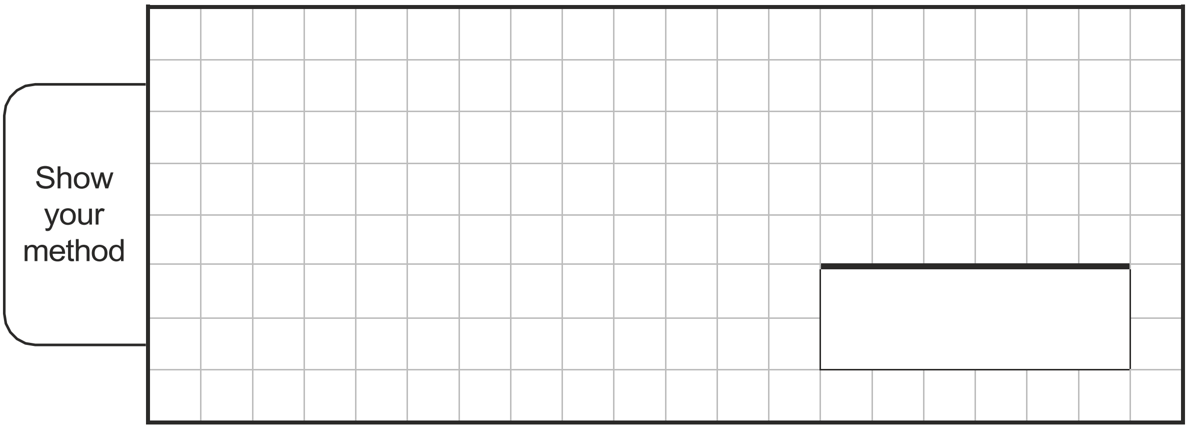
You have **40 minutes** to complete this test.

Follow the instructions for each question.

Work as quickly and 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.

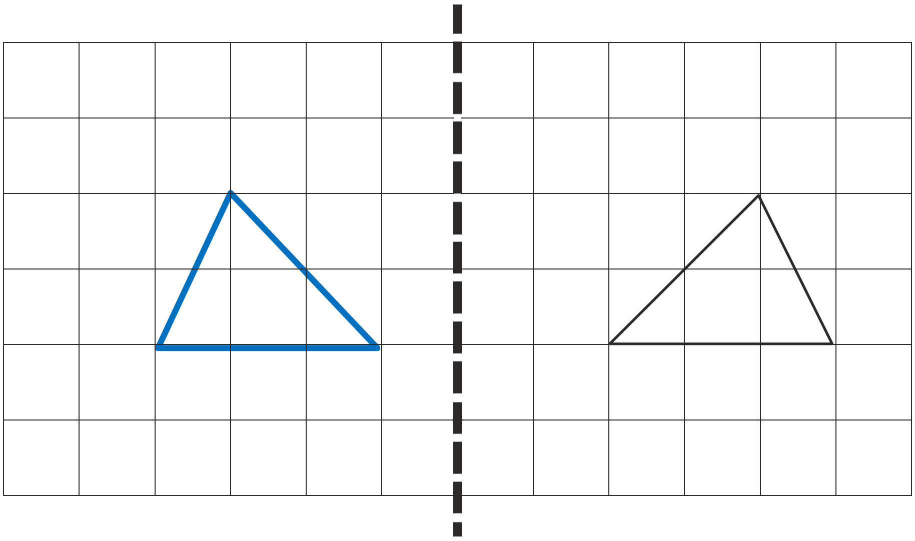
If you cannot do a question, **go on to the next one**.
You can come back to it later, if you have time.

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 number of marks available for each question.

1 Here is a triangle on a grid.



mirror line

Draw the reflection of the triangle in the mirror line.

Use a ruler.

1 mark

2 This table shows the cost of fruit at a school cafeteria.

Fruit	Cost for one
	12p
plum	23p
apple	32p
pear	38p

Amir buys two pieces of fruit.

He pays with a £2 coin.

He gets £1.50 change.

Tick the **two** pieces of fruit that Amir buys.

Tick **two**.

banana ☑

plum ☐

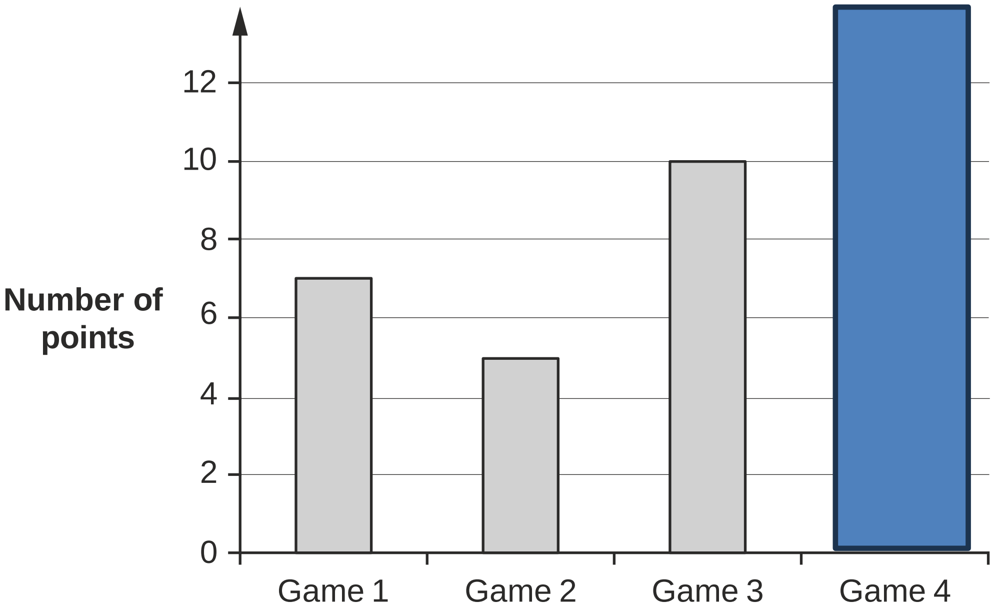
apple ☐

pear ☐

1 mark

3 Layla plays basketball.

This graph shows how many points she scored in her first 3 games.



1 mark

After 4 games, Layla had scored a total of 25 points.

Complete the graph.

Use a ruler.

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

Write the missing numbers.

–11	-5	1	7	13	19

1mark

5 Write the three missing digits to make this multiplication correct.

$$\begin{array}{r} \boxed{2}\;5\;\boxed{4} \\ \times \qquad 3 \\ \hline 7\;\boxed{6}\;2 \end{array}$$

1 mark

6 Olivia is thinking of a number.

My number
- is greater than 236
- is less than 245
- has a 3 in the tens' place
- is an even number

What number is Olivia thinking of?

$\boxed{231}$

1 mark

7 A box holds 40 packets of envelopes.

Each packet holds 25 envelopes.

How many **envelopes** does the box hold?

65

1 mark

8 Write a **whole number** in each box to make the statements correct.

One has been done for you.

18 rounded to the nearest **ten** is 20

3999 rounded to the nearest **thousand** is 4,000

81000 rounded to the nearest **ten thousand** is 820,000

1 mark

9

4 ÷ 10	40 ÷ 10
4 ÷ 100	40 ÷ 100

Two of these calculations have the same answer.

Write this answer as a **decimal.**

0.4

1 mark

M00070A0924

10 Circle the two **prime** numbers that have a difference of 2

[✓ 15]   [✓ 17]   19   21   23   25

1 mark

11 This table shows the number of children and adults at a childcare centre.

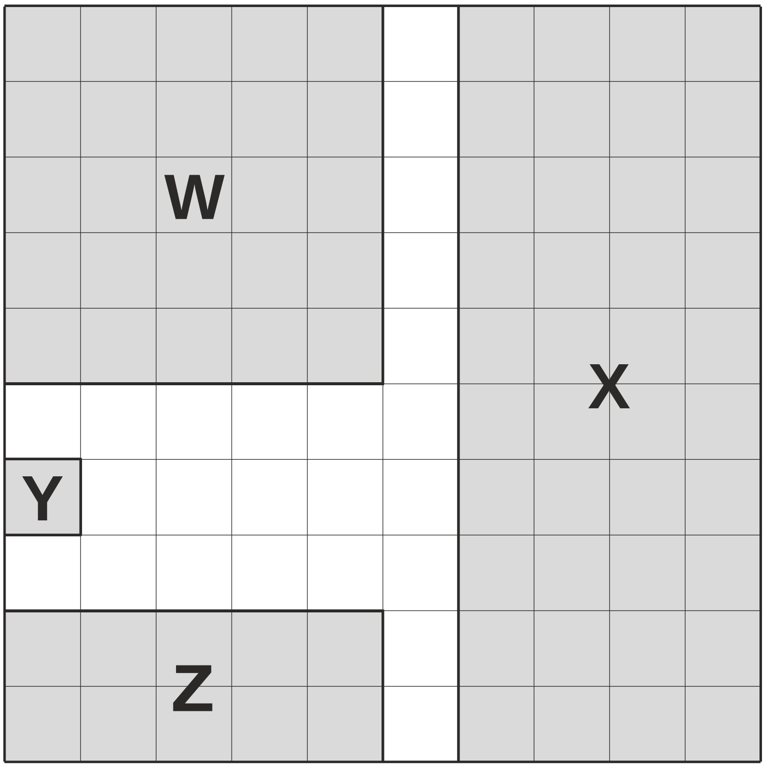
Complete the table to make it correct.

The first row has been done for you.

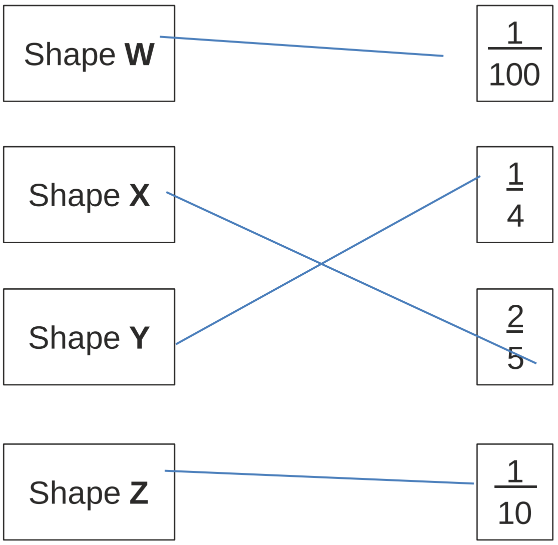
Age in years	Number of children	Number of adults	Number of children per adult
1 and under	12	4	3
2 or 3	20	5	4
4 or 5	5	3	8

1 mark

12 Shapes **W, X, Y** and **Z** cover different fractions of this 10 by 10 square.

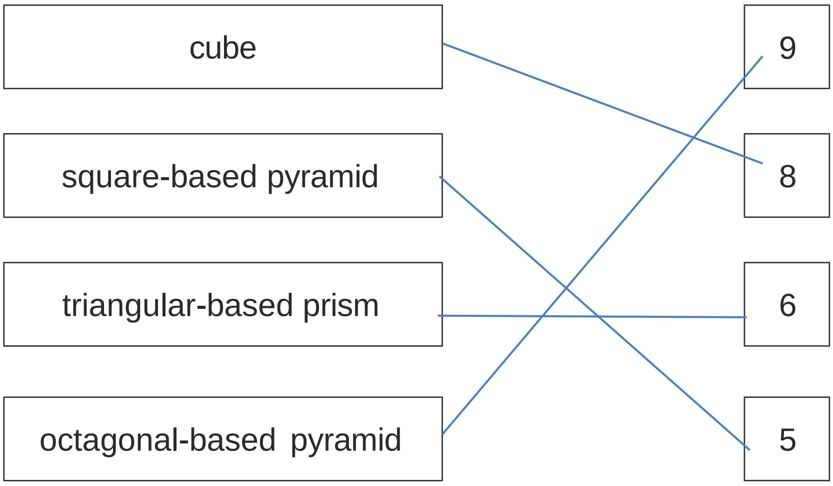


Match each shape to the correct fraction.


Shape W
Shape X
Shape Y
Shape Z
$\frac{1}{100}$
$\frac{1}{4}$
$\frac{2}{5}$
$\frac{1}{10}$

1 mark

13 Match the name of each 3-D shape to its number of vertices.


cube
square-based pyramid
triangular-based prism
octagonal-based pyramid
9
8
6
5

1 mark

14 A class votes for a captain.

Three-quarters of the class vote for Sam.

The remaining 7 pupils vote for Alex.

How many pupils are in the class?

14

1 mark

15 Write the missing number to make this **multiplication** correct.

$$3.207 \times 100 = \boxed{0.3207} \times 10$$

1 mark

16 Here is a number.

9,658,214

Tick the statements that are **true**.

The digit 5 represents 50,000 ☑

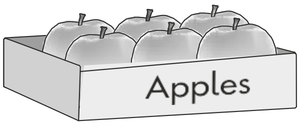
The value of the digit 9 is nine hundred thousands. ☐

The digit 6 represents 6 millions. ☐

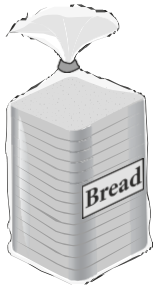
The value of the digit 2 is twenty tens. ☑

2 marks

17 Chen buys these four items.



670 grams
£1.50



400 grams
£0.70

500 grams

WHEAT O'TEES

750 grams
£1.45

Chen pays for the four items with a £10 note. The price of the butter is not shown.

She receives £3.85 change.

What is the price of the **butter**?

Show your method

1.5 + 0.7 + 1.45 = 2.57

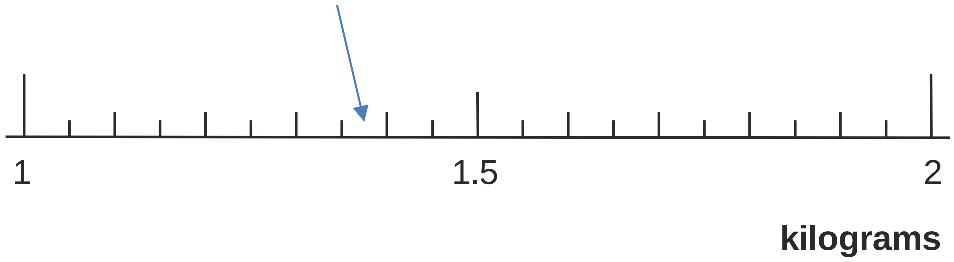
3.85 + 2.57 = 6.42

10 - 6.42 = 3.58

£3.58

2 marks

18 Draw an arrow (↑) on the scale below to show **1350 grams**.



1 mark

19 A hall has 1,250 seats.

At 7 pm, 880 seats are filled.

At 8 pm, there are 40 empty seats.

How many seats were filled between 7 pm and 8 pm?

Show your method

1250 - 40 = 1210

1210 seats

2 marks

20 Each day, a school has

- break from 10:15 am to 10:30 am
- lunchtime from 12:40 pm to 1:30 pm.

What is the **total** time the school has for breaks and lunchtime in a 5-day week?

Show your method

15 × 5 = 75

50 × 5 = 250

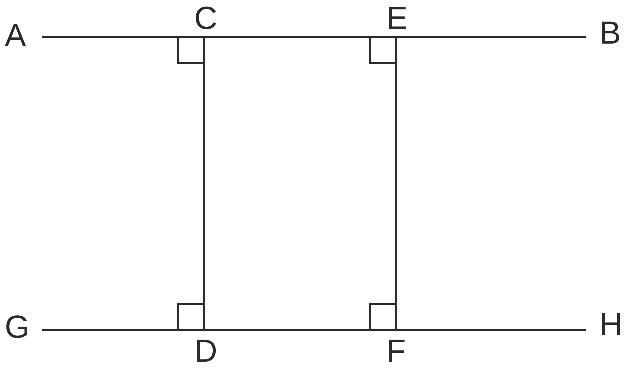
250 + 75 = 325

325 ÷ 10 = 32.5

32 **hours** 5 **minutes**

2 marks

21



Tick **all** the correct statements.

AB is parallel to CD ☐

GH is parallel to AB ☑

CD is perpendicular to GH ☐

EF is perpendicular to CD ☐

1 mark

22 This table shows the distance that five friends travel to school each day.

Name	Distance (km)
Amina	1.8
William	2.4
Layla	3.2
Chen	1.6
Dev	4.5

What is the **mean** distance they travel to school each day?

Show your method

1.8 + 2.4 + 3.2 + 1.6 + 5.4 = 14.4

14.4 ÷ 5 = 2.88

2.88 km

2 marks

23

Mrs Mills has **940** seeds to plant into trays.

She plants **12** seeds in each tray.

The last tray is not full.

What **fraction** of the last tray is filled?

Show your method

940 ÷ 12 = 7 r 100

$\frac{100}{940}$

2 marks

24 Here are four numbers.

40 60 64 100

Use each number **once** to complete these statements.

64 is a square number.

100 is a cube number.

40 is a common multiple of **4** and **5**

60 is a common factor of **80** and **120**

2 marks

25 Write the missing numbers so that **3 × b – a = 2**

a	b
6	2
13	15

2 marks

26 Here are 3 translations on a coordinate grid.

Tick the translations that are **four units to the left**.

from (0, 2) to (4, 2) ☑

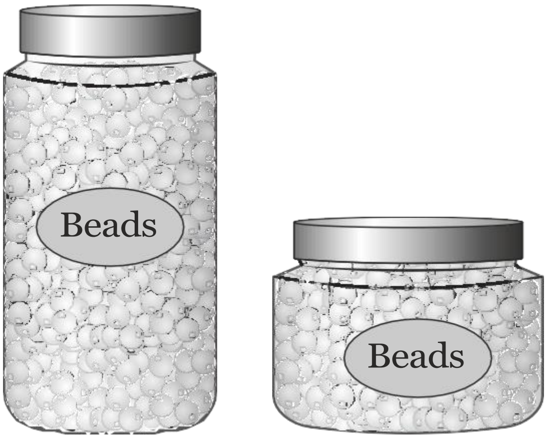
from (6, 8) to (2, 8) ☐

from (–3, 5) to (–7, 5) ☐

1 mark

27 Olivia has two jars of beads.

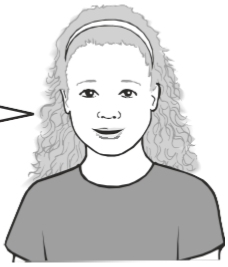
The number of beads in Jar A is **double** the number of beads in Jar B.



Jar A **Jar B**

Olivia says,

25% of the number of beads in Jar A is the same as 50% of the number of beads in Jar B.



Explain why Olivia is correct.

Jar A is taller than Jar B

1 mark

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Paper 2: reasoning
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