## Key Stage 2

## Mathematics <br> Set A

## Paper 2: reasoning

| Name |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| School |  |  |  |  |  |  |
| Date of Birth | Day |  | Month |  | Year |  |

## Instructions

Do not use a calculator to answer the questions in this test.

## Questions and answers

You have 40 minutes to complete this test.
Follow the instructions carefully for each question.
If you need to do working out, use the space around the question.
Some questions have a method box. For these questions, you may get one mark for showing the correct method.


If you cannot do a question, move on to the next one, then go back to it at the end if you have time.
If you finish before the end of the test, go back and check your answers.

## Marks

The numbers under the boxes at the side of the page tell you the number of marks for each question.

1 Sara asked the children in Year 3 and Year 5 if they had a pet.
This graph shows the results.


Altogether, how many children do not have a pet?


How many more Year 3 children than Year 5 children have a pet?

$\overline{1 \text { mark }}$

2 Write the missing numbers to make this multiplication grid correct.

| $x$ |  |  |
| :---: | :---: | :---: |
| 8 | 72 | 40 |
|  | 108 | 60 |

3 Circle the number that is ten times greater than four hundred and three.
4,300
403
4003
430
4030

4 This table shows the lengths of three rivers.

| River | Length in km |
| :---: | :---: |
| Nile | 6,853 |
| Zambezi | 2,693 |
| Loire | 1,012 |

How much longer is the river Nile than the combined length of the other two rivers?

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| Showyourmethod |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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5 Write the missing numbers.

72 months $=\square$ years
96 hours $=\square$ days
77 days $=\square$ weeks

6 Complete this table with the missing numbers.
One row has been done for you.

| Number | 1,000 more |
| :---: | :---: |
| 2,800 | 3,800 |
| 26 | 8,054 |
|  | 17,269 |

7 At the start of May, there were 1,576 tennis balls in the sports shop.
During May,

- 9,854 more tennis balls were delivered
- 8,546 tennis balls were sold.

How many tennis balls were left in the shop at the end of May?


2 marks

8 Tick two shapes that have $\frac{3}{4}$ shaded.


9 Here is a rule for the time it takes to cook roast beef.
Cooking time $=30$ minutes plus an extra 20 minutes for each kilogram
How many minutes will it take to cook a 4 kg joint of beef?
minutes

What is the mass of a joint of beef that takes 90 minutes to cook?


10 Round 76,615
to the nearest 10: $\square$
to the nearest 100 : $\square$
to the nearest 1,000 : $\square$

11 Here are diagrams of some 3-D shapes.
Tick each shape which has more vertices than faces.


Square-based pyramid


Triangular-based pyramid


12 Write these numbers in order of size, starting with the smallest.
$\begin{array}{llll}2.5 & 0.72 & 2.134 & 0.428\end{array}$

$\overline{1 \text { mark }}$

13 Kate and Daniel buy some lollies.

Box of 12 Iollies

£10.49

12 Iollies


95p each

Kate buys a pack of 12 lollies for $£ 10.49$
Daniel buys 12 single lollies for 95 p each.
How much more does Daniel pay than Kate?

$\overline{2 \text { marks }}$

14 At the end of a TV programme, the year it was made is given in Roman numerals. MMXII

Write the year MMXII in figures.

$\overline{1 \text { mark }}$

15 Amy poured some drinks at a party.
For every 4 drinks Amy poured, only 3 were drunk.
Altogether, 15 drinks were drunk.
How many drinks did Amy pour?


16 Craig spins this spinner:


The spinner completes one-and-a-half turns before it stops. Draw the new position of the dot on this spinner:


17 Amina posts three parcels.
The postage costs the same for each parcel.
She pays with a $£ 20$ note.
Her change is $£ 14.81$
What is the cost of posting one parcel?

$\overline{2 \text { marks }}$

18 Ben has driven 20 kilometres. 10\% of his journey has been completed.
Write the missing percentage.

Ben has driven 30 kilometres. completed.
$\square$ \% of his journey has been

19 The vertices of a quadrilateral have these coordinates.
$(2,5)(6,2)(1,-7)(-6,5)$
One side of the quadrilateral has been drawn on the grid.
Complete the quadrilateral.
Use a ruler.


20 Mohammed says
' 0.4 is smaller than $\frac{4}{5}$,

## Explain why he is correct.



21 On a map, 1 cm represents 50 km .

The distance between two towns is 775 km .

On the map, what is the measurement in cm between the two towns?

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22 In this circle, $\frac{1}{4}$ and $\frac{1}{8}$ are shaded.
What fraction of the whole circle is not shaded?

$\overline{2 \text { marks }}$

23 Here are two similar quadrilaterals.


Write the ratio of side $a$ to side $b$.

$\overline{1 \text { mark }}$

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