Transcription of the Braille Version

2023 national curriculum tests
Key stage 2
Mathematics
Braille
Paper 3: reasoning

[braille page 1]

On your paper write:
Your first name
Your last name
Your date of birth
Your school name

Instructions

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

You have 40 minutes to complete this test, plus your additional time allowance.

Follow the instructions for each question.

Work as quickly and as carefully as you can.

Some questions say: "Show your method." 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.

The questions are on different types of paper and diagrams are on opposite pages. Make sure you read everything carefully.

_____ has been used in some questions to indicate a missing number.

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Test administration guidance

Note to test administrator

Please write the school DfE number on the pupil's braille script.

If you are acting as a scribe for a braillist, write the pupil's answers on a sheet of plain or lined paper and attach the braille diagrams showing the pupil's work.

1.   Chen has four digit cards.
      The numbers on her cards are

      4 8 2 7

      She uses three of the cards to make a three-digit number.
      Each card can be used only once.
      Chen puts the 4 in the tens place.
      Write the lowest three-digit number that Chen could make.

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2.   Look at the list of five numbers below.
      They are labelled PQRST.
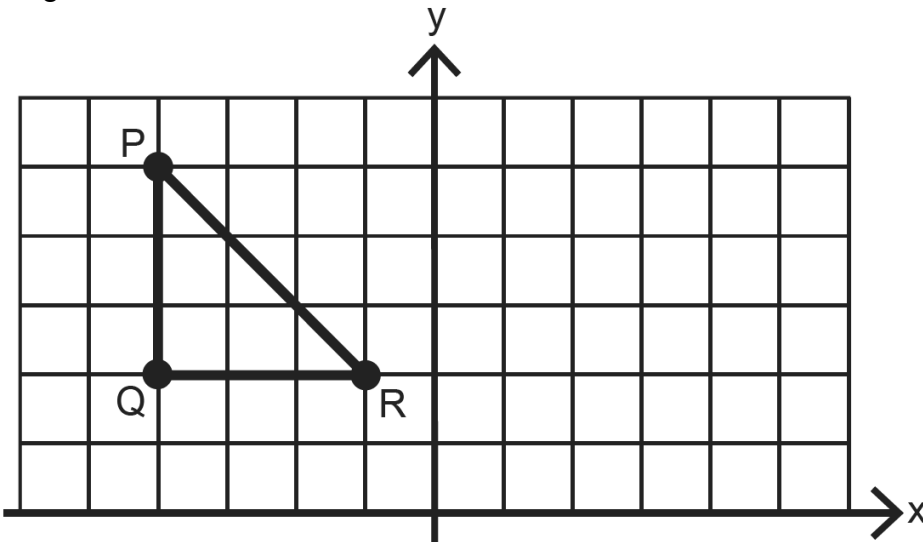
      P 8306
      Q 80 036
      R 80 306
      S 800 306
      T 80 300 006

      Write the letter of the number that is eighty thousand, three hundred and six.

……………………………………………………………………………...............……………………………

Diagram for Question 3

Test administration guidance

There is no specific guidance for questions 1 – 2.

3.   You have a cut-out shape provided for this question.
      Look at the diagram on the opposite page.
      Amina draws triangle PQR on a grid as shown on the opposite page.
      She then reflects the triangle in the y-axis.
      Draw the reflected triangle on the grid.
      Use a ruler.

....

4.   Write the next two numbers in the sequence below.
      1780 1880 1980 _____ _____

....

5.   Write the two decimals below that round to the same whole number.
      13.2 14.7 15.9 16.3 17.6

....

6.   Write the missing number to make the calculation below correct.
      1 300 450 = 1 000 000 + _____ + 400 + 50

....

Diagram for Question 7

$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$
3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
	6	$6\frac{1}{2}$	7	$7\frac{1}{2}$
		9	$9\frac{1}{2}$	10
p			12	$12\frac{1}{2}$

7.   Look at the diagram on the opposite page.
      It shows a number square.
      Part of the number square is missing.
      What number should be in the space labelled p in the bottom-left
      corner of the number square?

....

3. Ensure the pupil finds the diagram on the facing page. Provide the pupil with the cut-out shape for this question. A separate copy of the diagram on thermoform and two film copies are provided. A tactile ruler will be needed for this question.

    You may mount the separate diagram on a board so that the pupil can use pins and bands or other tactile aids. You should then transcribe the pupil's work on the spare copy of the diagram.
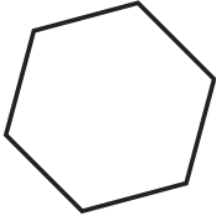
    No tactile aids (i.e. 'blobs', bluetack, wikkisticks) should be sent with the pupil's braille script.

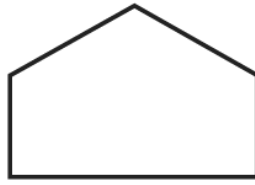7. Ensure the pupil finds the diagram on the facing page.
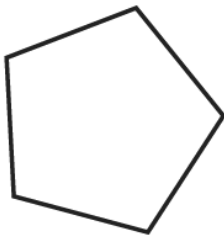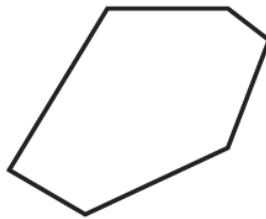
Diagram for Question 8

P

Q

R

S

[braille page 8]

8. Look at the diagram on the opposite page.
   It shows four shapes labelled PQRS.
   Write the correct letter for each shape below.

   a) Irregular pentagon is _____
   b) Irregular hexagon is _____
   c) Regular hexagon is _____
   d) Regular pentagon is _____

....

9. Jack says he multiplied a whole number by 3 and his answer was 32.
   Explain why Jack is not correct.

....

10. Write the missing square number to make the addition below correct.
    $8^2 +$ _____$^2 = 73$

....

Test administration guidance

8. Ensure the pupil finds the diagram on the facing page. Encourage the pupil to braille a before the answer to part a, b before the answer to part b, c before the answer to part c, and d before the answer to part d.
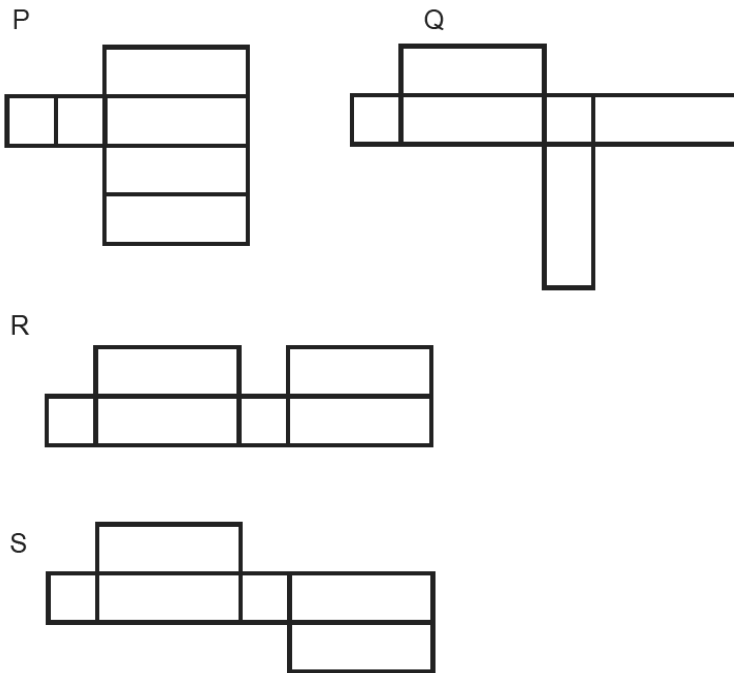
11.	At the start of April, a shop had 15 000 games.
	The shop sold:
	7918 games in April
	4624 games in May.

	How many games did the shop have left at the end of May?
	Show your method.
	....

Diagram for Question 12

12.	You are provided with a model and four cut-out shapes for this question.
	The model shows a cuboid.
	Look at the diagram on the opposite page.
	It shows four nets labelled PQRS.
	Write the letters of all the nets that could make the cuboid.
	....

13.	Write the missing number to make the calculation below correct.
	$754 \times 6 + 754 \times 3 = 754 \times$ ____
	....

14.	Look at the five digits below.

	1 2 3 4 5

	a) Use two digits to write a fraction equivalent to 25%

	b) Use two digits to write a fraction equivalent to 0.4
	....

12. Ensure the pupil finds the diagram on the facing page. Provide the pupil with the model and cut-out shapes for this question.

14. Encourage the pupil to braille a before the answer to part a, and b before the answer to part b.

15.   Amina went to a concert one evening.
        It took her an hour and twenty minutes to get there from home.
        She arrived at ten past seven.

        a) At what time did she leave home?

        The concert started at 7:20 pm.
        It finished at 9:05 pm.

        b) How long did the concert last?
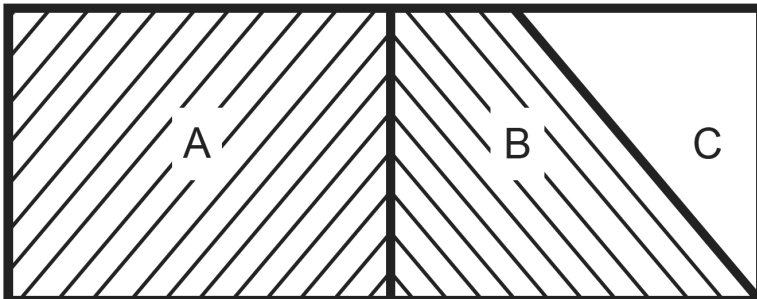   _____ hours _____ minutes

………………………………………………………………………………..............……………………………

16.   A box of 24 chocolate eggs has a mass of 870 grams.
        The empty box has a mass of 30 grams.
        What is the mass of one chocolate egg?
        Show your method.
        _____ g

………………………………………………………………………………..............……………………………

Diagram for Question 17

15. Encourage the pupil to braille a before the answer to part a, and b before the answer to part b.

17. Look at the rectangle on the opposite page.
It is not to scale.
The rectangle is divided into three parts.

Part A is $\frac{1}{2}$ of the area of the rectangle.

Part B is $\frac{1}{3}$ of the area of the rectangle.

What fraction of the area of the rectangle is shaded?

……………………………………………………………………………...............……………………………

Diagram for Question 18

Rainfall at Heathrow Airport

Rainfall in mm
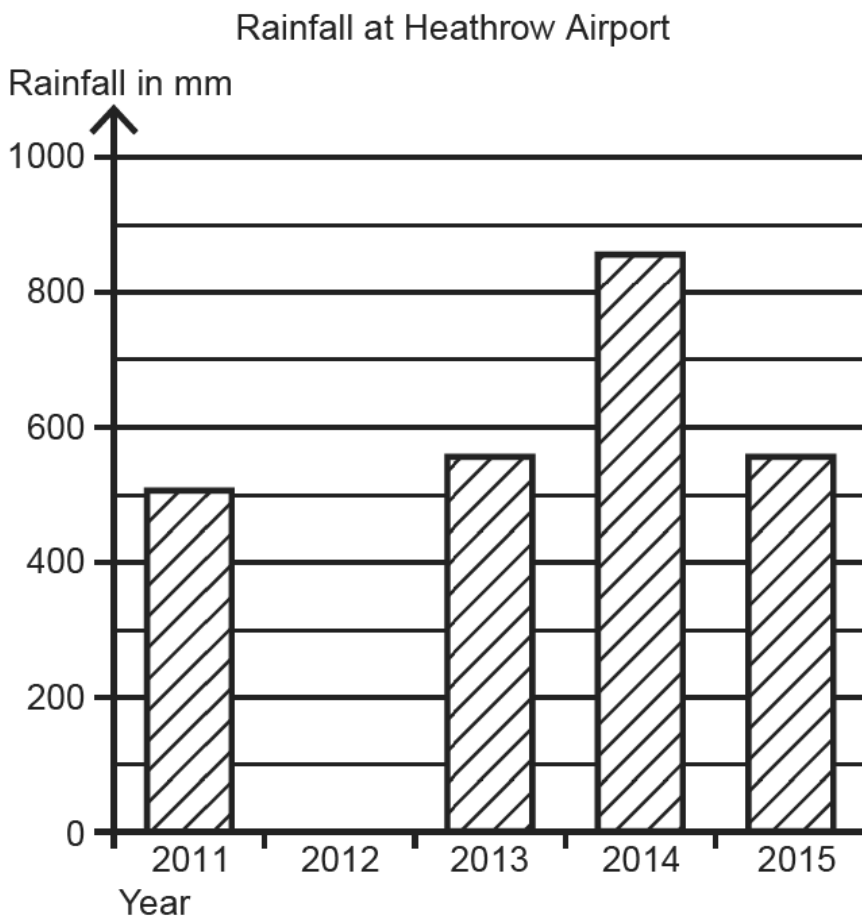
Year

Test administration guidance

17. Ensure the pupil finds the diagram on the facing page.

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18.   Look at the graph on the opposite page.
      The table below shows the total rainfall and sunshine each year at
      Heathrow Airport from 2011 to 2015.

Year	Rainfall in mm	Sunshine in hours
2011	509	1540
2012	700	1503
2013	560	1452
2014	864	1669
2015	562	1508

,,,,,,,,,,,,

a) Use the table to complete the graph on the opposite page.

   Use a ruler.

b) Use the table to calculate the mean hours of sunshine for Heathrow Airport
    from 2013 to 2015.
    Show your method.
    _____ hours

....

[braille page 17]

19.   Below are the prices of some vegetables in a shop.

      Mushrooms £3.20 for 1 kg
      Carrots 60p for 1 kg

      Layla buys 500 grams of mushrooms and $1\frac{1}{4}$ kg of carrots.
      She pays with a £5 note.
      How much change does Layla get?
      Show your method.

      £ _____

....

18. Ensure the pupil finds the diagram on the facing page. Separate copies of the diagram are provided on thermoform and plastic film. A tactile ruler will be needed for this question. Encourage the pupil to braille b before the answer to part b.

    You may mount the separate diagram on a board so that the pupil can use pins and bands or other tactile aids. You should then transcribe the pupil's work on the spare copy of the diagram.

    No tactile aids (i.e. 'blobs', bluetack, wikkisticks) should be sent with the pupil's braille script.

Diagram for Question 20
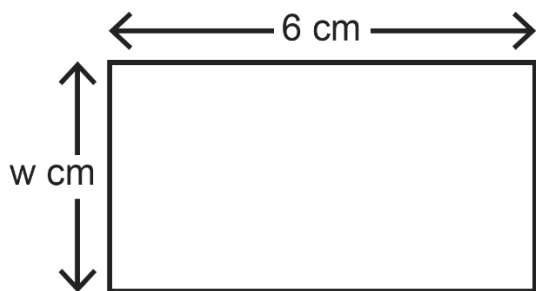
20.   Look at the rectangle on the opposite page.
      It is not actual size.
      The length of the rectangle is 6 cm.
      The width is w cm.
      Now look at the list of four methods below.
      They are labelled PQRS.

      P w × 6
      Q w × 2 + 12
      R 2 × (w + 6)
      S 6 + w + 6 + w

      Write the letters of all the methods that can be used to work out the
      perimeter of the rectangle.
....
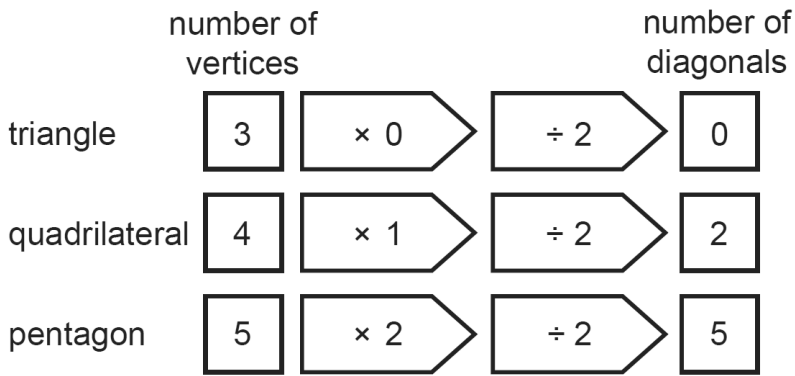
21.   There are 25 classes in a school.
      Each class has 34 pupils.
      62% of all the pupils play a sport after school.
      What number of pupils do not play a sport?
      Show your method.
      _____ pupils
....

20. Ensure the pupil finds the diagram on the facing page.

Diagram for Question 22

	number of vertices				number of diagonals
triangle	3	× 0	÷ 2	0	
quadrilateral	4	× 1	÷ 2	2	
pentagon	5	× 2	÷ 2	5	

22. Look at the number machines on the opposite page.
Megan uses these number machines to calculate how many diagonals different shapes have.
Now look at the number machine for an octagon below.
It has four blank spaces labelled PQRS.
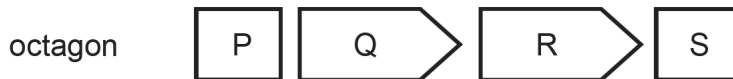
octagon   P   Q   R   S

Complete the number machine for the octagon by filling out the blank spaces labelled PQRS.

P _____
Q _____
R _____
S _____

22. Ensure the pupil finds the diagram on the facing page.

23. Write the missing decimals for the blank spaces labelled (a) and (b) in the table below.
One has been done for you.

p   q $\frac{p}{q}$

1 … 4 …… 0.25
3 … 20 …. (a)
5 … 8 …… (b)

,,,,,,,,,,,,

(a) ____
(b) ____

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END OF TEST

23. Encourage the pupil to braille a before the answer to part a, and b before the answer to part b.

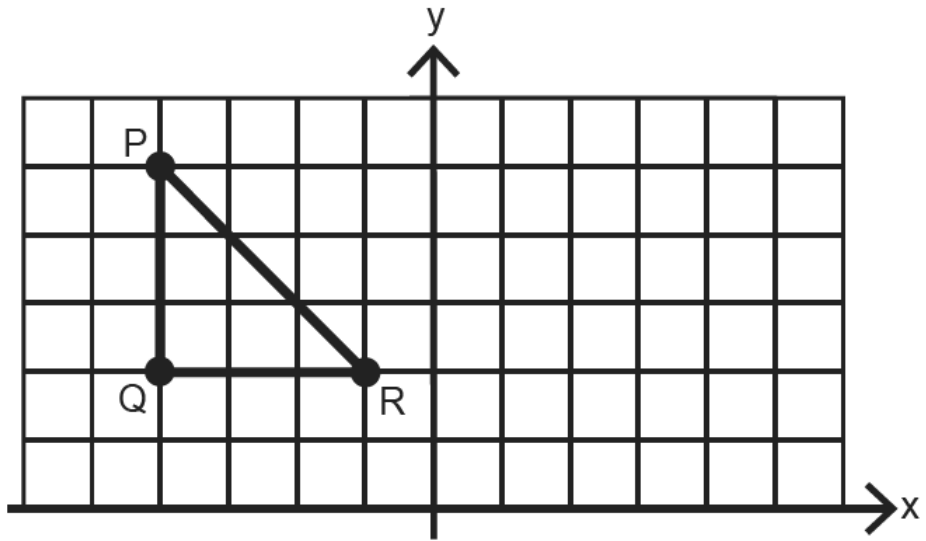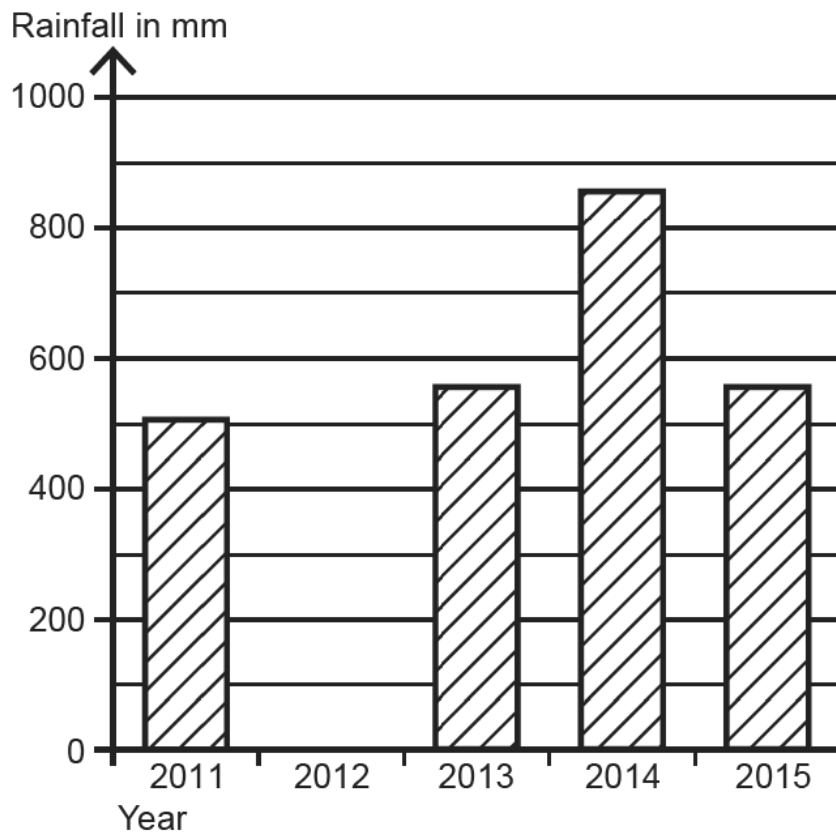Diagram and film copies for Question 3

Diagram and film copies for Question 18

Rainfall at Heathrow Airport

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Braille transcript

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