Transcription of the Braille Version (UEB)

2016 national curriculum tests
   Key stage 2
   Mathematics
   Braille (UEB)
   Paper 1: arithmetic
Transcription of the Braille Version

[braille page 1]
On your paper write:
  Your first name:
  Your last name:
  Your date of birth:
  Your school name:

Instructions
  You may NOT use a calculator to answer any questions in this test.
  You have 30 minutes for this test, plus your additional time allowance.
  Work as quickly and as carefully as you can.
  All questions should be given as a single value.
  For questions expressed as common fractions or mixed numbers, you should give your answers as common fractions or mixed numbers.
    #-- has been used in some questions to indicate a missing number.
    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.

[braille page 2]
Marks
  In this test, long division and long multiplication questions are worth two marks each. You will be awarded two marks for a correct answer.
    You may get one mark for showing your method.
    All other questions are worth one mark each.
    If you finish before the end, go back and check your work.

Note to test administrator
  Please write the school DFE number on the child's braille script.

............
1. $987 + 100 = #--$

2. $46 + 304 = #--$

3. $326 ÷ 1 = #--$

4. $468 - 9 = #--$

5. $936 + 285 = #--$

6. $95 ÷ 5 = #--$

7. $8994 + 7643 = #--$

8. $435 - 30 = #--$
9. \[96 \div 4 = \#--\]

10. \[879 \times 3 = \#--\]

11. \[71 \times 8 = \#--\]

12. \[50 \times 70 = \#--\]

13. \[100 \times 412 = \#--\]

14. \[3.005 + 6.12 = \#--\]

15. \[486 \div 3 = \#--\]

16. \[15.98 + 26.314 = \#--\]

17. \[125.48 - 72.3 = \#--\]

18. \[122456 - 11999 = \#--\]

19. \[3^2 + 10 = \#--\]

20. \[0.9 \div 10 = \#--\]

21. \[4 - 1.15 = \#--\]

22. \[1320 \div 12 = \#--\]
[braille page 6]
23. Work out
   \[ 71 \times 46 \]
   Show your method.

24. \[ \frac{4}{7} + \frac{5}{7} = \# \]

25. 20\% of 1800 = \# 

26. 15 \times 6.1 = \# 

27. \[ \frac{3}{10} - \frac{1}{20} = \# \]

[braille page 7]
28. Work out
   \[ 725 \div 29 \]
   Show your method.

29. 15\% \times 440 = \# 

30. Work out
   \[ 6574 \times 31 \]
   Show your method.
31. \( 1 \frac{4}{5} + \frac{3}{10} = \#-- \)

32. Work out
   \(1118 \div 43 = \#--\)
   Show your method.

33. \( \frac{3}{5} \div 3 = \#-- \)

34. \( \frac{2}{5} \times 140 = \#-- \)

35. \( \frac{1}{4} - \frac{1}{3} = \#-- \)

36. \( 60 - 42 \div 6 = \#-- \)

END OF TEST
Transcription of the Braille Version (UEB)

2016 national curriculum tests
Key stage 2
Mathematics
Braille (UEB)
Paper 2: reasoning
Transcription of the Braille Version

[braille page 1]
On your paper write:
   Your first name:
   Your last name:
   Your date of birth:
   Your school name:

Instructions
   You may 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.

[braille page 2]
   #-- has been used in some questions to indicate a missing number.
   #- has been used in some questions to indicate a missing number with one
digit.
   - has been used in some questions to indicate a missing digit e.g. -9
   -- has been used in some questions to indicate a missing letter, symbol or
   operation.

Note to test administrator
   Please write the school DFE number on the child's braille script.

................
1. Look at the five numbers below.
   511 499 502 555 455
   Ali puts these numbers in their correct places on a number line.
   
a) Write the number closest to 500

b) Write the number furthest from 500

2. Look at the list of house prices below.
   They are labelled A B C and D.
   A. £135 300
   B. £130 500
   C. £131 500
   D. £91 500
   Write the letter of each of the houses in order of price starting with the lowest price.
   lowest --
   --
   --

3. In this question - stands for a missing digit.
   Look at the addition below.
   151 + 4-4 = −15
   Write the addition again, filling in the two missing digits to make it correct.

4. The table below shows the number of people living in various towns in England.

<table>
<thead>
<tr>
<th>Town</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedford</td>
<td>82 448</td>
</tr>
<tr>
<td>Dover</td>
<td>34 087</td>
</tr>
<tr>
<td>Formby</td>
<td>24 478</td>
</tr>
<tr>
<td>Telford</td>
<td>166 640</td>
</tr>
</tbody>
</table>

   a) What is the total of the numbers of people living in Formby and in Telford?

   b) What is the difference between the numbers of people living in Bedford and in Dover?
5. You have four braille labels for this question. They show the numbers 16 17 18 19. Look at the diagram on the opposite page. Put each of the four numbers in the correct space on the diagram. Use the separate copy of the diagram.
6. You have a cut-out shape for this question. Look at the diagram on the opposite page. It shows the shape drawn on a square grid. Draw the reflection of the shape in the mirror line. Use the separate copy of the diagram.

7. Three equivalent fractions are shown below.

\[
\frac{\text{#--}}{3} = \frac{8}{12} = \frac{4}{\text{#--}}
\]

Write the three fractions again with values in the spaces so that the fractions are correct.

8. Look at the four numbers below.
0.05 0.23 0.2 0.5
Write the two numbers that add together to equal 0.25
9. 6 pencils cost £1.68

pencil pencil pencil
pencil pencil pencil

3 pencils and 1 rubber costs £1.09

pencil pencil pencil
rubber

What is the cost of 1 rubber?
Show your method.

10. Look at the three diagrams on the opposite page.
    Each diagram is divided into equal sections.
    Shade or mark one-quarter of each diagram.
    Use the separate copy of the diagram.

11. A packet contains 1.5 kg of oats.
    Every day Maria uses 50 g of oats to make porridge.
    How many days does the packet of oats last?
    Show your method.
    #-- days
12. a) $n = 22$
   What is $2n + 9$

b) $2q + 4 = 100$
   Work out the value of $q$
   $q = \#--$

[braille page 12]

13. Boxes are packed one on top of another to make a stack.
   A stack of 20 identical boxes is 140 cm tall.
   Stefan takes three boxes off the top.
   How tall is the stack now?
   Show your method.
   $\#-- \text{ cm}$

14. Write all the common multiples of 3 and 8 that are less than 50

[braille page 13, facing page 14]

Diagram for question 15

<table>
<thead>
<tr>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>104</td>
</tr>
<tr>
<td>30</td>
<td>86</td>
</tr>
<tr>
<td>20</td>
<td>68</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>-10</td>
<td>14</td>
</tr>
</tbody>
</table>

[braille page 14]

15. Look at the diagram on the opposite page.
   The scale shows temperatures in both °C and °F
   Work out what 25°C is in °F
   Show your method.
   $\#--°F$
16.  a) Write the number that is five less than ten million.

b) Write the number that is one hundred thousand less than six million.

[braille page 15, facing 16]
Diagram for question 17

[braille page 16]
17. Look at the diagram on the opposite page.
   It is not to scale.
   Calculate the size of angles a and b
   \[ a = \text{---}^\circ \]
   \[ b = \text{---}^\circ \]

18. \[ 70 \div \text{---} = 3.5 \]
   Write the missing number.

19. Miss Mills is making jam to sell at the school fair.
   Strawberries cost £7.50 per kg.
   Sugar costs 79p per kg.
   10 glass jars costs £6.90 and
   She uses 12 kg of strawberries and 10 kg of sugar to make 20 jars full of jam.
   Calculate the total cost to make 20 jars full of jam.
   Show your method.
   £\text{---}
Diagram for question 20

[braille page 18]

20. Look at the diagram on the opposite page.
Two triangles are drawn on coordinate axes.
They are labelled A and B.
Triangle B is a reflection of triangle A in the x-axis.
Two of the new vertices of triangle B are (10, -10) and (20, -30).
What are the coordinates of the third vertex of triangle B?
(#--, #--)

END OF TEST
Number cards for question 5

16
17
18
19

Diagram for question 5

prime numbers
even numbers
square numbers
Shape for question 6 in model pack

Diagram for question 6 and film copies

mirror line
Diagram for question 10

- A square divided into 4 equal parts
- A rectangle divided into 9 equal parts
- A circle divided into 8 equal parts
Transcription of the Braille Version (UEB)

2016 national curriculum tests
Key stage 2
Mathematics
Braille (UEB)
Paper 3: reasoning
Transcription of the Braille Version

[braille page 1]
On your paper write:
   Your first name:
   Your last name:
   Your date of birth:
   Your school name:

Instructions
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[braille page 2]
   #-- has been used in some questions to indicate a missing number.
   #- has been used in some questions to indicate a missing number with one digit.
   - has been used in some questions to indicate a missing digit e.g. -9
   -- has been used in some questions to indicate a missing letter, symbol or operation.

Note to test administrator
   Please write the school DFE number on the child's braille script.
       ............
1. Look at the number sequence below.
   
   82 96 124 138 
   
   The numbers in this sequence increase by 14 each time.
   Write the missing numbers.
   
   2. The table below shows the temperature at 9am on three days in January.

       1st January .......... +5°C
       8th January .......... -4°C
       15th January .......... +1°C

       a) What is the difference between the temperature on 1st January and the
temperature on 8th January?

       b) On 22nd January the temperature was 7 degrees lower than on
15th January.
       What was the temperature on 22nd January?

3. Twice a day a clock shows the time a quarter to three.
   Look at the five digital times below.

       03:45
       02:45
       03:15
       14:45
       14:15

   Write the two digital times that show a quarter to three.
4. a) In this question \( \therefore \) stands for a number.
Look at the addition below.
\[
\therefore + \therefore + \therefore = 96
\]
Work out the value of \( \therefore \)
\[
\therefore = \#--
\]

b) In this question \( \therefore \) stands for another number.
Look at the addition below.
\[
44 + \therefore + \therefore = 80
\]
Work out the value of \( \therefore \)
\[
\therefore = \#--
\]

5. Look at the five numbers below.
0.78 0.607 5.6 0.098 4.003
Write these numbers in order, starting with the smallest.
Smallest
\[
\#--
\]

6. Jacob cuts 4 metres of ribbon into three pieces.
The length of the first piece is 1.28 metres.
The length of the second piece is 1.65 metres.
Work out the length of the third piece.
Show your method.
\[
\#-- \text{ metres}
\]
[braille page 7, facing page 8]
Diagram for question 7

A

B

C

D

[braille page 8]
7. Look at the four angles on the opposite page.
   They are labelled A B C and D
   
   a) Write the letters of the angles that are obtuse.
   
   b) Write the letters of the angles that are acute.

8. Olivia buys three packets of nuts.
   She pays with a £2 coin.
   She gets the coins below for her change.
   50p 20p 10p 10p 5p
   What is the cost of one packet of nuts?
   Show your method.
9. Look at the bus timetable below.

Riverdale .......  10:02  10:12  10:31
Fordham .......  10:28  10:38  10:54
Tremont .......  10:36  10:44  11:00
Mott Haven ...  10:53  11:01  11:17

a) How many minutes does it take the 10:31 bus from Riverdale to reach Mott Haven?
--- minutes

b) Mr Evans is at Fordham at 10:30
What is the earliest time he can reach Tremont on the bus?

10. Emma makes a cuboid using centimetre cubes.
    Her cuboid is 2 cubes long, 3 cubes wide and 2 cubes tall.
    How many cubes does she use?

11. A toy shop orders 11 boxes of marbles.
    Each box contains 6 bags of marbles.
    Each bag contains 45 marbles.
    How many marbles does the shop order in total?
    Show your method.
    --- marbles
12. Look at the diagram on the opposite page. Two triangles A and B are drawn on a grid. Triangle A is translated to triangle B. Write the missing numbers from the sentence below. The triangle has moved #-- squares to the right and #-- squares down.
#-- squares to the right
#-- squares down

13. Lara chooses a number less than 20
She divides it by 2 and then adds 6
She then divides this result by 3
Her answer is 4.5
What was the number she started with?
Show your method.
14. Look at the six numbers below.
   120 240 600 1440 3600 6000

   a) Complete the sentence below using a number from the list.
      There are #-- seconds in an hour.

   b) Complete the sentence below using a number from the list.
      There are #-- minutes in a day.

15. a) Write 20906 rounded to the nearest 100

   b) Write 2090.6 rounded to the nearest 100

   c) Write 209.06 rounded to the nearest 100

16. Look at the diagram on the opposite page.
    6 small bricks have the same mass as 5 large bricks.
    The mass of one small brick is 2.5 kg.
    What is the mass of one large brick?
    Show your method.
    #-- kg
17. Look at the diagram on the opposite page.
Four triangles are drawn on a square grid.
Three of the triangles have the same area.
Write the letter of the triangle that has a different area.

.................................................................
18. Look at the diagram on the opposite page.
Four quadrilaterals are drawn on a square grid.
They are labelled A B C and D
Quadrilateral A has diagonals which cross at right angles.
Write the letters of the other quadrilaterals that have diagonals which cross at right angles.

19. Look at the four numbers below.
200 2000 5000 50000
Write two of the numbers that multiply together to equal 1 million.

20. Lara had some money.
She spent £1.25 on a drink.
She spent £1.60 on a sandwich.
She has three-quarters of her money left.
How much money did Lara have to start with?
Show your method.
£--

21. 5542 ÷ 17 = 326
Explain how you can use this fact to find the answer to 18 x 326
2016 national curriculum tests
Key stage 2

Mathematics test
Mark scheme amendments (MSA)

Braille (UEB and SEB)
Introduction

This guidance details the amendments made to the mark schemes for questions which have been adapted, or replaced, in the braille (UEB and SEB) versions of the key stage 2 mathematics test materials.

This guidance must be used in conjunction with the standard version of the key stage 2 mathematics mark schemes. Refer to the standard mark scheme when marking the braille test papers unless an alternative is given in this guidance.

Amendments to the mark scheme

Modified mark scheme amendments are only provided where the content of the standard mark scheme is altered.

Mark scheme amendments are not provided where the only change has been to further divide the question into subsections or where the layout of the question is different.

The mark schemes have been amended in some respects for the following questions:

<table>
<thead>
<tr>
<th>Paper 1</th>
<th>23, 28, 30 and 32.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 2</td>
<td>2, 3, 6, 8 and 10.</td>
</tr>
<tr>
<td>Paper 3</td>
<td>1, 3, 4, 7, 10, 12, 15, 18 and 19.</td>
</tr>
</tbody>
</table>
General guidance to be applied throughout the braille papers

- You should make every effort to understand what the pupil has written in an answer, without reading into the answer anything that the pupil did not intend.

- Some pupils with visual impairment find it difficult to get their answers across clearly. It may take you longer to read their answers. Apply the mark schemes, but be sympathetic to their difficulties.

- Pupils with visual impairment find it difficult to draw accurately. Often thick pens or pencils are used by these pupils. You should make every effort to be fair in marking these questions and take into account what appears to be the pupil’s intention.

- Unless otherwise indicated in this document, there should be an increased tolerance level for all drawing and measuring. In general, pupils will only be expected to measure length to the nearest 0.5cm and angles to the nearest 5°.

- If pupils have missed any answer lines within the text, their answers may be elsewhere on the page. Any unambiguous indication of the correct answer should be credited.
Mark scheme amendments for Paper 1: arithmetic

Please use the standard mark schemes to mark Paper 1: arithmetic.

For questions 23, 28, 30 and 32 the standard mark schemes expect a ‘formal method’ for long multiplication or long division. Visually impaired pupils should be credited if they have used any correct method with no more than ONE arithmetical error; a formal method is not required. Working must be carried through to reach a final answer for the award of ONE mark.

Mark scheme amendments for Paper 2: reasoning

<table>
<thead>
<tr>
<th>Qu.</th>
<th>Requirement</th>
<th>Mark</th>
<th>Additional guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Award <strong>ONE</strong> mark for the correct answer as shown:</td>
<td>1m</td>
<td>Accept:</td>
</tr>
<tr>
<td></td>
<td>• D B C A</td>
<td></td>
<td>• £91 500, £130 500,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>£131 500, £135 300</td>
</tr>
<tr>
<td>3</td>
<td>Award <strong>TWO</strong> marks for the correct answer as shown:</td>
<td>Up to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>151 + 464 = 615</td>
<td>2m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If the answer is incorrect, award <strong>ONE</strong> mark for one digit correct.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Diagram completed correctly as shown:</td>
<td>1m</td>
<td>Accept inaccurate drawing, provided the intention is clear.</td>
</tr>
<tr>
<td></td>
<td>[Diagram of a graph with axes and shaded regions]</td>
<td></td>
<td>Diagram need not be shaded.</td>
</tr>
<tr>
<td>8</td>
<td>Numbers written as shown:</td>
<td>1m</td>
<td>Numbers may be written in either order.</td>
</tr>
<tr>
<td></td>
<td>• 0.05 and 0.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mark scheme amendments for Paper 2: reasoning (cont.)

<table>
<thead>
<tr>
<th>Qu.</th>
<th>Requirement</th>
<th>Mark</th>
<th>Additional guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Award <strong>TWO</strong> marks for all three diagrams completed to show one-quarter shaded / marked, e.g.</td>
<td>Up to 2m</td>
<td>Accept alternative unambiguous indications of parts shaded / marked.</td>
</tr>
</tbody>
</table>

If the answer is incorrect, award **ONE** mark for two diagrams correct.
### Mark scheme amendments for Paper 3: reasoning

<table>
<thead>
<tr>
<th>Qu.</th>
<th>Requirement</th>
<th>Mark</th>
<th>Additional guidance</th>
</tr>
</thead>
</table>
| 1   | Award **TWO** marks for three numbers as shown:  
  - 68  110  152  
  If the answer is incorrect, award **ONE** mark for two numbers correct. | Up to 2m | Accept numbers given in any order. |
| 3   | Both times given as shown:  
  - 02:45 **AND** 14:45 | 1m | Accept times given in either order.  
  **Do not** accept alternative formats for the given times, e.g. do not accept 2.45pm for 14:45 |
| 4a  | 32          | 1m   |                     |
| 4b  | 18          | 1m   |                     |
| 7a  | B **AND** D | 1m   | Letters may be given in either order. |
| 7b  | A **AND** C | 1m   | Letters may be given in either order. |
| 10  | 12          | 1m   |                     |
| 12  | Both missing letters completed correctly as shown:  
  - The triangle B has moved **4** squares to the right and **5** squares down. | 1m |  

Mark scheme amendments for Paper 3: reasoning (cont.)

<table>
<thead>
<tr>
<th>Qu.</th>
<th>Requirement</th>
<th>Mark</th>
<th>Additional guidance</th>
</tr>
</thead>
</table>
| 15a | Award **TWO** marks for three answers correct as shown:  
      - 20900  
      - 2100  
      - 200  
      If not all three answers are correct, award **ONE** mark for two correct answers. | Up to 2m | |
| 15b | | | |
| 15c | | | |
| 18  | Award **TWO** marks for the correct letters **B** **AND** **D**.  
      If the answer is incorrect award **ONE** mark for identifying the following:  
      - **B** **AND** **D** only and not more than one incorrect letter.  
      - **B** only  
      - **D** only | Up to 2m | |
| 19  | Both numbers given as shown:  
      - 200 **AND** 5000 | 1m | Accept numbers given in either order. |