

# Ma

YEAR

# 7

LEVELS

# 3–4

# 2006

This booklet contains **CONFIDENTIAL** test questions. It **MUST BE KEPT SECURE**. It should not be opened until the start of the mental mathematics test, which must take place during the year 7 progress test week of Monday 8 May 2006 – Friday 12 May 2006.

## Mathematics tests

# Mental mathematics test

### Transcript

This booklet contains a transcript of the year 7 mental mathematics test. It should be used **ONLY** in cases of audiotape or CD failure or for specific special arrangements outlined in the 2006 *Assessment and reporting arrangements* booklet for key stage 3.

# 2006



department for

**education and skills**

creating opportunity, releasing potential, achieving excellence

# Notes for use of transcript

## Instructions

In the event of an audiotape or CD failure, the test administrator should follow the instructions on pages 2 and 5.

1. Pupils should have only pens or pencils. They should not have rubbers, rulers, calculators or any mathematical equipment. Access to paper for working out answers is **not allowed**.
2. Ensure that each pupil has an answer sheet. Tell the pupils to write their name and school in the box at the top of the answer sheet.
3. Ensure the pupils understand that:
  - they must complete the test on their own without copying or discussing questions with other pupils
  - they will be told how long they have to answer each question and that the time given will increase from 5, to 10, to 15 seconds as the test progresses through the three sections
  - for some of the questions, the information they will need is included in or beside the answer box on the pupil answer sheet
  - they are not allowed to use a calculator or any other mathematical equipment
  - if they want to change their answer, they should put a cross through their first answer. They are not allowed to rub out any answers
  - they should answer as many questions as they can. If they find a question too difficult, they should put a cross in the answer box, and wait for the next question
  - they should not write in the white boxes in the blue margins
  - they will not be allowed to ask any questions once the test has started.
4. The test administrator must have access to a clock or watch that measures accurately in seconds.

Instructions continued on page 5

Test questions

'Now we are ready to start the test.

For the first group of questions you will have 5 seconds to work out each answer and write it down.'

|   |                                                              |
|---|--------------------------------------------------------------|
| 1 | How many right angles does a square have?                    |
| 2 | What number must I add to seventy-three to make one hundred? |
| 3 | Multiply six by three.                                       |
| 4 | What number is one hundred less than four thousand?          |
| 5 | How many hours is one hundred and eighty minutes?            |
| 6 | What number is nought point one more than five point nine?   |

'For the next group of questions you will have 10 seconds to work out each answer and write it down.'

|    |                                                                                                                                                    |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 7  | Look at the table on your answer sheet.<br>It shows how many boys and girls in a year group study French or German.<br>How many boys study German? |
| 8  | I start by facing north-east.<br>I turn through half a turn.<br>Which direction am I facing now?                                                   |
| 9  | Look at the rectangle on your answer sheet.<br>What fraction of the rectangle is shaded?                                                           |
| 10 | What is two thousand seven hundred and sixty-three rounded to the nearest hundred?                                                                 |
| 11 | Look at the shape on your answer sheet.<br>Write down the coordinates of the point marked A.                                                       |
| 12 | What is the remainder when thirty-two is divided by five?                                                                                          |
| 13 | Look at the numbers on your answer sheet.<br>Put a ring round the smallest number.                                                                 |

'Now turn over your answer sheet.'

Pupil answer sheet

Year 7 mathematics 2006

Mental mathematics test

First name \_\_\_\_\_

Last name \_\_\_\_\_

School \_\_\_\_\_

Total marks

Time: 10 seconds

7

|       |        |        |
|-------|--------|--------|
|       | French | German |
| Boys  | 22     | 36     |
| Girls | 39     | 31     |
| boys  |        |        |

7

8

|  |    |
|--|----|
|  | NE |
|--|----|

8

9

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |

9

10

|  |      |
|--|------|
|  | 2763 |
|--|------|

10

11

5

4

3

2

1

0

0

1

2

3

4

5

C

A

B

(     ,     )

11

12

|  |    |   |
|--|----|---|
|  | 32 | 5 |
|--|----|---|

12

13

|     |      |       |
|-----|------|-------|
| 0.3 | 0.4  | 0.308 |
|     | 0.03 | 0.2   |

13

Practice question

15

15

Time: 5 seconds

1

1

2

73

2

3

3

4

4000

4

5

hours

180 minutes

5

6

5.9

6

'For the next group of questions you will have 15 seconds to work out each answer and write it down.'

|    |                                                                                                                                                                         |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14 | Mary has two twenty pence pieces and two ten pence pieces.<br>How much more money does Mary need to make one pound?                                                     |
| 15 | A teacher asked his class if they had used a bus to get to school.<br>The tally chart shows the results.<br>How many more pupils said yes than said no?                 |
| 16 | A shop sells pencils in boxes of ten.<br>There are twenty-eight pupils in a class.<br>How many boxes do I need to buy so that the pupils have one pencil each?          |
| 17 | Write a number that is a multiple of ten and that is also a multiple of twelve.                                                                                         |
| 18 | The pictogram shows how many pupils had a school dinner or a packed lunch on one day.<br>Twenty-four pupils had a school dinner.<br>How many pupils had a packed lunch? |
| 19 | Anne bought half a kilogram of cherries.<br>Paul bought two hundred grams of cherries.<br>Altogether, how many grams of cherries did they buy?                          |
| 20 | Look at the shaded shape drawn on a centimetre square grid.<br>What is its perimeter?                                                                                   |

'Put your pens down. The test is finished.'

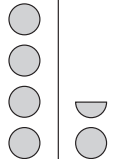

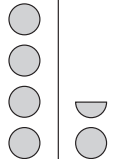

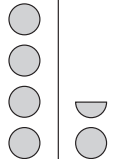

Time: 15 seconds

|    |                                |    |
|----|--------------------------------|----|
| 14 | <input type="text" value="p"/> | 14 |
|----|--------------------------------|----|

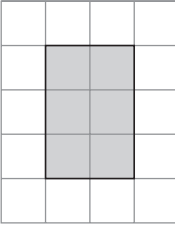
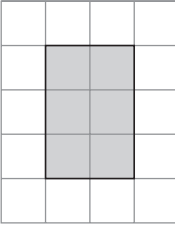
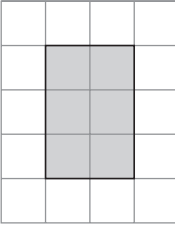
|     |                                                                                         |     |  |    |  |    |
|-----|-----------------------------------------------------------------------------------------|-----|--|----|--|----|
| 15  | <table><tr><td>Yes</td><td>        </td></tr><tr><td>No</td><td>     </td></tr></table> | Yes |  | No |  | 15 |
| Yes |                                                                                         |     |  |    |  |    |
| No  |                                                                                         |     |  |    |  |    |

|       |                                                   |       |    |    |
|-------|---------------------------------------------------|-------|----|----|
| 16    | <table><tr><td>boxes</td><td>28</td></tr></table> | boxes | 28 | 16 |
| boxes | 28                                                |       |    |    |

|    |                      |    |
|----|----------------------|----|
| 17 | <input type="text"/> | 17 |
|----|----------------------|----|

|               |                                                                                                                                                                                                                                                                                |               |                                                                                   |              |                                                                                   |    |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------|----|
| 18            | <table><tr><td>School dinner</td><td></td></tr><tr><td>Packed lunch</td><td></td></tr></table> <p>pupils</p> | School dinner |  | Packed lunch |  | 18 |
| School dinner |                                                                                                                                                                                               |               |                                                                                   |              |                                                                                   |    |
| Packed lunch  |                                                                                                                                                                                               |               |                                                                                   |              |                                                                                   |    |

|    |                                                                                     |      |                  |      |    |
|----|-------------------------------------------------------------------------------------|------|------------------|------|----|
| 19 | <table><tr><td>g</td><td><math>\frac{1}{2}</math> kg</td><td>200g</td></tr></table> | g    | $\frac{1}{2}$ kg | 200g | 19 |
| g  | $\frac{1}{2}$ kg                                                                    | 200g |                  |      |    |

|                                                                                     |                                                                                                                                 |                                                                                     |    |    |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|----|
| 20                                                                                  | <table><tr><td></td><td>cm</td></tr></table> |  | cm | 20 |
|  | cm                                                                                                                              |                                                                                     |    |    |

5. Read out the following script, using exactly these words:

*Listen carefully to the instructions I am going to give you. When I have finished reading them, I will answer any questions. However, you will not be able to ask any questions once the test has begun.*

*I will start by reading a practice question. Then I am going to ask you 20 questions for the test.*

*On your sheet there is an answer box for each question, where you should write the answer to the question and nothing else. You should work out the answer to each question in your head, but you may jot things down outside the answer box if this helps you. Do not try to write down your calculations because this will waste time and you may miss the next question. For some of the questions, important information is already written down for you on the sheet.*

*I will read out each question twice. Listen carefully both times. You will then have time to work out your answer. If you cannot work out an answer, put a cross in the answer box. If you make a mistake, cross out the wrong answer and write the correct answer next to it. There are some easy and some harder questions so don't be put off if you cannot answer a question.*

6. Stop and answer any questions that the pupils may have.

7. Read out the following:

*Here is the practice question to show you what to do.*

*I will read the question twice, and you will have 5 seconds to work out the answer and write it in the answer box.*

*Double the number on your answer sheet.*

Repeat the question.

*Double the number on your answer sheet.*

Wait 5 seconds (measured accurately using a clock or watch), then read out the following:

*Now put down your pen or pencil.*

8. Ensure that the pupils have correctly placed their answers to the practice question on their answer sheets. Remind the pupils that, for some questions, information is provided in or beside the answer box. When they are ready to begin the test, tell the pupils that you will not be able to answer any further questions, or interrupt the test, once you have started reading the questions.
9. The questions are given on pages 3–4 of this booklet. The questions must be read out exactly as written. Start by stating the question number, then read each question twice before leaving the 5, 10 or 15 second response time. **These timings must be strictly adhered to.**
10. At the end of the test, tell the pupils to put down their pens or pencils, then collect their answer sheets.

First published in 2006

© Qualifications and Curriculum Authority 2006

Reproduction, storage, adaptation or translation, in any form or by any means, of this publication is prohibited without prior written permission of the publisher, unless within the terms of licences issued by the Copyright Licensing Agency. Excerpts may be reproduced for the purpose of research, private study, criticism or review, or by educational institutions solely for educational purposes, without permission, provided full acknowledgement is given.

Produced in Great Britain by the Qualifications and Curriculum Authority under the authority and superintendence of the Controller of Her Majesty's Stationery Office and Queen's Printer of Acts of Parliament.

The Qualifications and Curriculum Authority is an exempt charity under Schedule 2 of the Charities Act 1993.

Qualifications and Curriculum Authority  
83 Piccadilly  
London  
W1J 8QA  
[www.qca.org.uk](http://www.qca.org.uk)

Order ref: QCA/06/1916

270070