

Ma

KEY STAGE

3

HIGHER TIERS

TEST B

Mathematics tests

# Mental mathematics

Test B transcript

## CONFIDENTIAL MATERIAL ENCLOSED

THIS BOOKLET CONTAINS CONFIDENTIAL TEST QUESTIONS –  
IT MUST BE KEPT SECURE. IT SHOULD NOT BE OPENED UNTIL  
THE MENTAL MATHEMATICS TEST IS DUE TO START ON

**THURSDAY 10 MAY 2007.**

EARLY OPENING, UP TO ONE HOUR BEFORE THE TEST  
STARTS, IS PERMISSIBLE ONLY IF PAPERS ARE NEEDED FOR  
ADMINISTRATIVE PURPOSES.

This booklet contains a transcript of the key stage 3 mental mathematics test B. It should be used **ONLY** in cases of CD failure or for specific special arrangements outlined in the 2007 *Assessment and reporting arrangements* booklet for key stage 3.

2007

# Notes for use of transcript

## Instructions

In the event of 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 other 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

## Higher tiers test B 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	Write in figures the number six thousand and ten.
2	What is fifty-six divided by eight?
3	Look at the expression. Write it as simply as possible.
4	What is seven squared?
5	How many pairs of parallel sides must a trapezium have?
6	What number is nought point eight less than nine?
7	Write the ratio twelve to four as simply as possible.
8	I think of a number. I call it $n$ . I square it and then subtract four. Write an expression to show the result.
9	Multiply minus four by minus five.
10	A line is twenty centimetres long to the nearest centimetre. What is the minimum length it can be?

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

11	A television programme lasts for an hour and a quarter. How many minutes is that?
12	Four hundred pupils were asked if they wanted to take art GCSE. The pie chart shows the results. How many pupils said no?
13	Look at the rectangle. Write down its perimeter.
14	Look at the triangle. Write down the size of angle $c$ .
15	What number is the arrow pointing to on the number line?

'Now turn over your answer sheet.'

## Pupil answer sheet

Key stage 3 mathematics 2007

Mental mathematics Test B

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

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

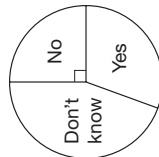

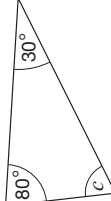
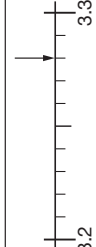
School \_\_\_\_\_

Total marks

Time: 5 seconds continued

8	<input type="text"/>	$n$	<input type="text"/>
9	<input type="text"/>	-4	-5
10	<input type="text"/>	cm	20 cm

Time: 10 seconds

11	minutes	<input type="text"/>
12		pupils
13		cm
14		$^{\circ}$
15		<input type="text"/>

Practice question

<input type="text"/>	5	<input type="text"/>
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Time: 5 seconds

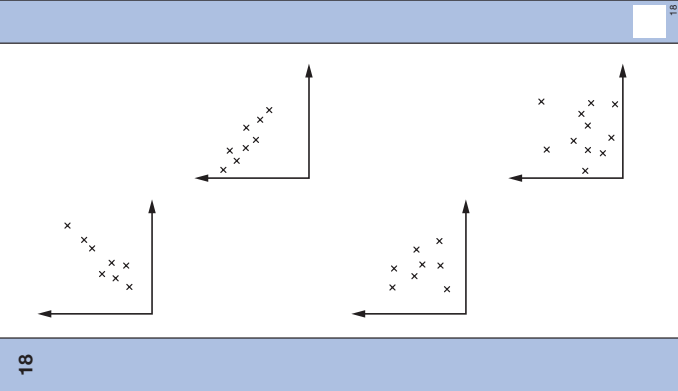
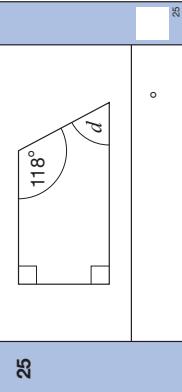
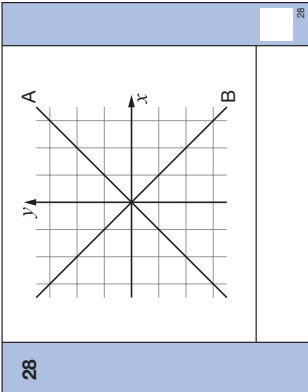
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	56
3	<input type="text"/>	$6b - 4b$
4	<input type="text"/>	7
5	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	0.8
7	<input type="text"/>	12 : 4

16	A fair six-sided dice is numbered one to six. I am going to roll the dice. What is the probability that I will roll a four?
17	A cuboid measures three centimetres by four centimetres by five centimetres. What is its volume?
18	Look at the scatter graphs. Put a ring round the graph that shows a positive correlation.
19	Write the fraction three-fifths as a percentage.
20	A car travels at an average speed of fifty miles per hour. How far does it travel in two and a half hours?
21	What is nought point four multiplied by nought point two?

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

22	I have fifty-five twenty pence coins. How many pounds is this?
23	Look at the equation. When $y$ is four, what is the value of $x$ ?
24	Eighteen multiplied by twenty-two is three hundred and ninety-six. What is three thousand nine hundred and sixty divided by eighteen?
25	Look at the quadrilateral. What is the size of angle $d$ ?
26	Look at the expression. When $a$ is nought point three and $b$ is nought point four, what is the value of the expression?
27	I think of a number. I square my number and get the answer one thousand six hundred. What could my number be?
28	Look at the graph. The equation of the line marked A is $y$ equals $x$ . Write down the equation of the line marked B.
29	The mean of two numbers is six. One of the numbers is minus three. What is the other number?
30	Look at your answer sheet. Complete the factorisation.

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

Time: 10 seconds continued		Time: 15 seconds	
16	<input type="text"/>	22	£                      55      20p
17	3cm by 4cm by 5cm cm <sup>3</sup>	23	$y + 11 = 3x$
18		24	$18 \times 22 = 396$ $3960 \div 18 =$ <input type="text"/>
19	% $\frac{3}{5}$	25	
20	50mph $2\frac{1}{2}$ hours miles	26	$10(a + b)$ 0.3      0.4
21	<input type="text"/> 0.4      0.2	27	<input type="text"/> 1600
22	<input type="text"/>	28	
23	<input type="text"/>	29	<input type="text"/> -3
24	<input type="text"/>	30	$6p^2 + 12p = 6p(\text{---} + \text{---})$

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

*Listen carefully to the instructions I am going to give you. After I have finished reading them, there will be time for you to ask any questions you might have. 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 30 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.*

*How many fives are there in twenty?*

Repeat the question.

*How many fives are there in twenty?*

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.

