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KEY STAGE

2

LEVELS

3-5

2004

Mathematics tests

# Mark schemes

Test A, test B and mental mathematics test

2004

2



department for

**education and skills**

creating opportunity, releasing potential, achieving excellence

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# Marking the mathematics tests

As in 2003, external markers, employed by the external marking agencies under contract to QCA, will mark the test papers. The markers will follow the mark schemes in this booklet, which is supplied to teachers for information.

This booklet contains the mark schemes for the levels 3–5 tests A, B and mental mathematics. Level threshold tables will be available on the QCA website on 21 June 2004 ([www.qca.org.uk/](http://www.qca.org.uk/)).

## General guidance

### *The structure of the mark schemes*

The marking information for each question is set out in the form of tables, which start on page 6 of this booklet. The ‘question’ column on the left-hand side of each table provides a quick reference to the question number and the question part. The ‘mark’ column indicates the total number of marks available for each question part. On some occasions, the symbol (U1) or (U2) may be shown in the mark column. The ‘U’ indicates that there is a ‘Using and Applying Mathematics’ element in the question. The number, 1 or 2, shows the number of marks attributed to using and applying mathematics in the question.

The ‘requirement’ column may include two types of information:

- a statement of the requirements for the award of each mark, with an indication of whether credit can be given for correct working;
- examples of some different types of correct response.

The ‘additional guidance’ column indicates alternative acceptable responses, and provides details of specific types of response which are unacceptable. Other guidance, such as the range of acceptable answers, is provided as necessary.

Additionally, for the mental mathematics test, general guidance on marking is given on page 16, together with a ‘quick reference’ mark scheme.

### *Applying the mark schemes*

In order to ensure consistency of marking, the most frequent procedural queries are listed on pages 2 and 3 with the action the marker will take. This is followed by further guidance on pages 4 and 5 relating to the marking of questions that involve money, time and other measures. Unless otherwise specified in the mark scheme, markers will apply the following guidelines in all cases.

What if ...?	Marking procedure	
The child's response is numerically or algebraically equivalent to the answer in the mark scheme.	Markers will award the mark unless the mark scheme states otherwise.	
The child's response does not match closely any of the examples given.	Markers will use their judgement in deciding whether the response corresponds with the statement of the requirements given in the 'requirement' column. Reference will also be made to the additional guidance and, if there is still uncertainty, markers will contact the supervising marker.	
The child has responded in a non-standard way.	Calculations, formulae and written responses do not have to be set out in any particular format. Children may provide evidence in any form as long as its meaning can be understood. Diagrams, symbols or words are acceptable for explanations or for indicating a response. Any correct method of setting out working, however idiosyncratic, will be accepted.	
There appears to be a misreading affecting the working.	This is when the child misreads the information given in the question and uses different information without altering the original intention or difficulty level of the question. For each misread that occurs, one mark only will be deducted. In one-mark questions – 0 marks are awarded. In two-mark questions that have a method mark – 1 mark will be awarded if the correct method is correctly implemented with the misread number(s).	
No answer is given in the expected place, but the correct answer is given elsewhere.	Where a child has shown understanding of the question, the mark(s) will be given. In particular, where a word or number response is expected, a child may meet the requirement by annotating a graph or labelling a diagram elsewhere in the question.	
The response in the answer box is wrong, but the correct answer is shown in the working.	Where appropriate, detailed guidance will be given in the mark scheme, which markers will follow. If no guidance is given, markers will examine each case to decide whether:  the incorrect answer is due to a transcription error;  the child has continued to give redundant extra working which does not contradict work already done;  the child has continued to give redundant extra working which does contradict work already done.	If so, the mark <b>will</b> be awarded.  If so, the mark <b>will</b> be awarded.  If so, the mark <b>will not</b> be awarded.

<b>What if ...?</b>	<b>Marking procedure</b>
The child's answer is correct but the wrong working is shown.	A correct response will always be marked as correct.
The correct response has been crossed out and not replaced.	Any legible crossed-out work that has not been replaced will be marked according to the mark scheme. If the work is replaced, then crossed-out work will not be considered.
More than one answer is given.	If all answers are correct (or a range of answers is given, all of which are correct), the mark will be awarded unless prohibited by the mark scheme. If both correct and incorrect responses are given, no mark will be awarded.
The answer is correct but, in a later part of the question, the child has contradicted this response.	A mark given for one part will not be disallowed for working or answers given in a different part, unless the mark scheme specifically states otherwise.

### **Recording marks awarded on the test paper**

In the shaded margin there is a mark box for each question part. For the written tests, the number of marks gained on each double page will be written in the total box at the bottom of the right-hand page. For all the tests, the total number of marks gained on each paper will be recorded on the front of the test paper, and on the mark sheet.

All questions in the tests, even those not attempted by the child, will be marked with a '1' or '0' entered in the mark box.

A two-mark question which is correct has '1' entered in both mark boxes.

A two-mark question which is incorrect, but which has sufficient evidence of working or method as required by the mark scheme, will have '1' entered in the first mark box and '0' in the second. Otherwise '0' will be entered in both mark boxes.

Test A carries a total of 40 marks. Test B also carries a total of 40 marks. The mental mathematics test carries a total of 20 marks.

The 2004 key stage 2 mathematics tests and mark schemes were developed by the Mathematics Test Development Team at QCA.

## Marking specific types of question – summary of additional guidance

### Responses involving money

**Accept**

**Where the £ sign is given, for example: £3.20, £7**

£

£3.20  
£7  
£7.00

Any unambiguous indication of the correct amount, eg  
£3.20p  
£3 20 pence  
£3 20  
£3,20  
£3-20  
£3:20  
£3·20

**Where the p sign is given, for example: 40p**

p

40p

Any unambiguous indication of the correct amount, eg  
£0.40p

**Where no sign is given, for example: £3.20, 40p**

£3.20            40p  
320p            £0.40p

Any unambiguous indication of the correct amount, eg  
£3.20p            £0.40p  
£3 20 pence    £. 40p  
£3 20            40  
£3,20            0.40  
£3-20            £.40  
£3:20  
3.20  
320  
3 pounds 20

**Do not accept**

£

Incorrect or ambiguous use of pounds or pence, eg  
£320  
£320p

Incorrect placement of decimal point or incorrect use or omission of 0, eg  
£3.2  
£3 200  
£32 0  
£3-2-0

p

Incorrect or ambiguous use of pounds or pence, eg  
0.40p  
£40p

Incorrect or ambiguous use of pounds or pence, eg  
£320            £40  
£320p            £40p  
£3.2            0.4  
3.20p

### Responses involving time

Accept	Do not accept
<p><b>A time interval, for example: 2 hours 30 minutes</b></p> <p>2 hours 30 minutes</p> <p>Any unambiguous indication, eg</p> <p>2½ hours</p> <p>2.5 hours</p> <p>2h 30</p> <p>2h 30 min</p> <p>Digital electronic time, ie</p> <p>2:30</p> <p><b>A specific time, for example: 8:40am, 17:20</b></p> <p>8:40am</p> <p>8:40</p> <p>twenty to nine</p> <p>Any unambiguous, correct indication, eg</p> <p>08.40</p> <p>8.40</p> <p>0840</p> <p>8 40</p> <p>8-40</p> <p>8,40</p> <p>Unambiguous change to 12 or 24 hour clock, eg</p> <p>17:20 as 5:20pm or 17:20pm</p>	<p>An incorrect or ambiguous time interval, eg</p> <p>2.30</p> <p>2-30</p> <p>2,30</p> <p>2.3</p> <p>2.3 hours</p> <p>2.3h</p> <p>2h 3</p> <p>2.30 min</p> <p>Incorrect time, eg</p> <p>8.4am</p> <p>8.40pm</p> <p>Incorrect placement of separators, spaces etc or incorrect use or omission of 0, eg</p> <p>840</p> <p>8:4:0</p> <p>8.4</p> <p>084</p> <p>84</p>

### Responses involving measures

Accept	Do not accept
<p><b>Where units are given (eg kg, m, l), for example: 8.6kg</b></p> <div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> <span style="font-size: 24px; font-weight: bold;">kg</span> </div> <p>8.6kg</p> <p>Any unambiguous indication of the correct measurement, eg</p> <p>8.60kg</p> <p>8.6000kg</p> <p>8kg 600g</p>	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> <span style="font-size: 24px; font-weight: bold;">kg</span> </div> <p>Incorrect or ambiguous use of units, eg</p> <p>8600kg</p>

#### Note

If a child leaves the answer box empty but writes the answer elsewhere on the page, then that answer must be consistent with the units given in the answer box and the conditions listed above.

If a child changes the unit given in the answer box, then their answer must be equivalent to the correct answer using the unit they have chosen, unless otherwise indicated in the mark scheme.

### Test A questions 1–6

Question	Requirement	Mark	Additional guidance
<b>1a</b>	115	<b>1m</b>	
<b>1b</b>	30	<b>1m</b>	
<b>1c</b>	69	<b>1m</b>	
<b>2</b>	$\frac{1}{4}$ <b>OR</b> $\frac{2}{8}$	<b>1m</b>	Accept equivalent fractions.
<b>3a</b>	£2.45 <b>OR</b> 245p	<b>1m</b>	
<b>3b</b>	juice and apple <b>OR</b> milk and melon	<b>1m</b>	Accept recognisable misspellings. Accept items written in either order. Accept numerical substitutes for the required pairing, ie 65p and 15p <b>OR</b> 55p and 25p
<b>4</b>	Answer in the range 8.4 to 8.6cm inclusive.	<b>1m</b>	Accept $8\frac{1}{2}$ cm
<b>5</b>	Award <b>TWO</b> marks for all three calculations completed correctly as shown:  $5 \times$ <input type="text" value="4"/>  $12 \div$ <input type="text" value="3"/>  $9 +$ <input type="text" value="5"/>  If the answer is incorrect, award <b>ONE</b> mark for two calculations completed correctly, eg  $5 \times$ <input type="text" value="4"/>  $12 \div$ <input type="text" value="5"/>  $9 +$ <input type="text" value="3"/>	<b>Up to 2m</b>	Answers to the calculations are not required for the award of the mark.  Accept for <b>ONE</b> mark 4, 3, * <b>OR</b> 4, *, 5 <b>OR</b> 4, *, 3 <b>OR</b> *, 3, 5 where * is any number or blank.
<b>6a</b>	15	<b>1m</b>	
<b>6b</b>	25	<b>1m</b>	



## Test A questions 7–12

Question	Requirement	Mark	Additional guidance									
<b>7</b>	<p>Award <b>TWO</b> marks for the correct answers of A <b>AND</b> E.</p> <p>If the answer is incorrect, award <b>ONE</b> mark for:</p> <ul style="list-style-type: none"> <li>■ only one answer correct</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>■ two answers correct and one incorrect.</li> </ul>	<b>Up to 2m</b>	<p><i>Answers may be given in either order.</i></p> <p><i>Accept unambiguous indications on the diagram.</i></p>									
<b>8</b>	10.8	<b>1m</b>										
<b>9a</b>	5	<b>1m</b>	<b>Do not</b> accept a list of months.									
<b>9b</b>	Answer in the range 6 degrees to 7.5 degrees inclusive.	<b>1m</b>										
<b>10a</b>	£2.86	<b>1m</b>	<p><i>Accept for <b>ONE</b> mark £202p <b>OR</b> £202 <b>OR</b> 2.02p as evidence of appropriate working.</i></p> <p><i>Calculation must be performed for the award of <b>ONE</b> mark.</i></p>									
<b>10b</b>	<p>Award <b>TWO</b> marks for the correct answer of £2.02 <b>OR</b> 202p</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate working, eg</p> <p><math>4.69 + 3.29 = 7.98</math></p> <p><math>10 - 7.98 =</math> wrong answer</p>	<b>Up to 2m</b>										
<b>11</b>	9:20	<b>1m</b>	<i>The answer is a specific time (see page 5 for guidance).</i>									
<b>12</b>	<p>Award <b>TWO</b> marks for a correct number written in each of the four boxes.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;">even</th> <th style="text-align: center;">not even</th> </tr> </thead> <tbody> <tr> <th style="text-align: center;">a square number</th> <td style="text-align: center;">0 <b>OR</b> 4 <b>OR</b> 16 <b>OR</b> 36 <b>OR</b> 64</td> <td style="text-align: center;">1 <b>OR</b> 9 <b>OR</b> 25 <b>OR</b> 49 <b>OR</b> 81</td> </tr> <tr> <th style="text-align: center;">not a square number</th> <td style="text-align: center;">even <b>AND</b> not square <b>AND</b> less than 100</td> <td style="text-align: center;">odd <b>AND</b> not square <b>AND</b> less than 100</td> </tr> </tbody> </table> <p>If the answer is incorrect, award <b>ONE</b> mark for three boxes completed correctly.</p>		even	not even	a square number	0 <b>OR</b> 4 <b>OR</b> 16 <b>OR</b> 36 <b>OR</b> 64	1 <b>OR</b> 9 <b>OR</b> 25 <b>OR</b> 49 <b>OR</b> 81	not a square number	even <b>AND</b> not square <b>AND</b> less than 100	odd <b>AND</b> not square <b>AND</b> less than 100	<b>Up to 2m</b>	<i>Accept more than one number in each box, provided all are correct.</i>
	even	not even										
a square number	0 <b>OR</b> 4 <b>OR</b> 16 <b>OR</b> 36 <b>OR</b> 64	1 <b>OR</b> 9 <b>OR</b> 25 <b>OR</b> 49 <b>OR</b> 81										
not a square number	even <b>AND</b> not square <b>AND</b> less than 100	odd <b>AND</b> not square <b>AND</b> less than 100										

### Test A questions 13–18

Question	Requirement	Mark	Additional guidance																
13	<p>One net ticked as shown:</p>	1m	Accept alternative unambiguous indications of the correct shape, provided the intention is clear, eg net circled.																
14	<p>Award <b>TWO</b> marks for all four boxes completed correctly as shown:</p> <table border="1" style="margin-left: 20px;"> <tr> <td style="border: none;">×</td> <td style="border: none;">5</td> <td style="border: 1px solid black; padding: 2px;">9</td> <td style="border: 1px solid black; padding: 2px;">8</td> </tr> <tr> <td style="border: none;">4</td> <td style="border: none;">20</td> <td style="border: none;">36</td> <td style="border: none;">32</td> </tr> <tr> <td style="border: none;">7</td> <td style="border: none;">35</td> <td style="border: none;">63</td> <td style="border: none;">56</td> </tr> <tr> <td style="border: none;">6</td> <td style="border: none;">30</td> <td style="border: none;">54</td> <td style="border: none;">48</td> </tr> </table> <p>If the answer is incorrect, award <b>ONE</b> mark for three boxes completed correctly.</p>	×	5	9	8	4	20	36	32	7	35	63	56	6	30	54	48	<p>Up to 2m</p> <p style="text-align: center;">(U1)</p>	
×	5	9	8																
4	20	36	32																
7	35	63	56																
6	30	54	48																
15	90	1m																	
16	360	1m																	
17	221.2	1m																	
18	<p>Award <b>TWO</b> marks for the correct answer of 21</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate working, eg</p> <p><math>5 + 2 = 7</math>  <math>15 \div 5 \times 7</math></p> <p><b>OR</b></p> <p>5 new 2 old          10 new 4 old          15 new 6 old</p>	<p>Up to 2m</p>	<p>Award <b>ONE</b> mark for an answer of 6 <b>OR</b> for 6 shown with no evidence of an incorrect method.</p> <p>Answer need not be given for the award of <b>ONE</b> mark.</p>																

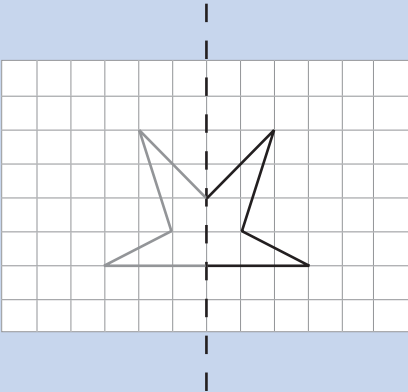
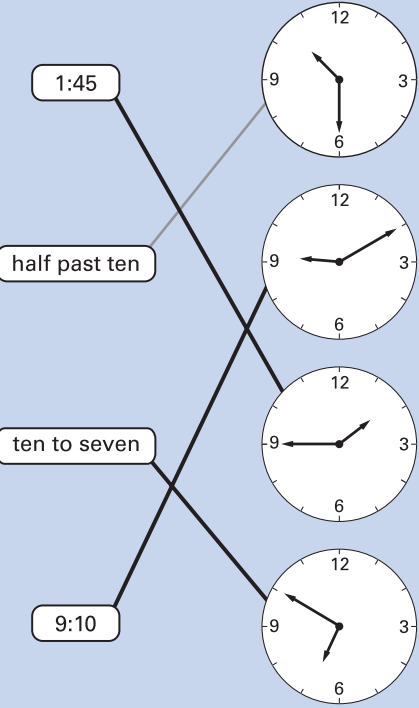
## Test A questions 19–22

Question	Requirement	Mark	Additional guidance
<b>19</b>	<p>An explanation which recognises that the sum of adding three odd numbers is always odd, eg</p> <ul style="list-style-type: none"> <li>■ 'Because odd + odd + odd = odd';</li> <li>■ 'Because three odd numbers can't add up to an even number';</li> <li>■ 'Because an odd number of odd numbers makes an odd number'.</li> </ul>	<p><b>1m</b></p> <p style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">U1</p>	<p><b>Do not</b> accept numerical exemplification without further explanation, eg</p> <ul style="list-style-type: none"> <li>■ 'Because <math>21 + 23 + 7 = 51</math>';</li> <li>■ 'Because <math>21 + 23 + 6 = 50</math>'.</li> </ul> <p><b>Do not</b> accept vague or arbitrary explanations, eg</p> <ul style="list-style-type: none"> <li>■ 'Because 50 is even';</li> <li>■ 'Because you can only do it with two odd numbers'.</li> </ul>
<b>20</b>	(5, 2)	<b>1m</b>	<p>Coordinates must be in the correct order.</p> <p>Accept unambiguous answers written on the diagram.</p>
<b>21</b>	5	<b>1m</b>	
<b>22</b>	<p>Award <b>TWO</b> marks for the correct answer of 15</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate working, eg</p> <ul style="list-style-type: none"> <li>■ <math>60 \div 4 =</math> wrong answer</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>■ a 'trial and improvement' method, eg</li> </ul> <p style="margin-left: 20px;"><math>30 \times 5 - 60 = 90</math></p> <p style="margin-left: 20px;"><math>10 \times 5 - 60 = -10</math></p> <p style="margin-left: 20px;"><math>20 \times 5 - 60 = 40</math></p> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>■ <math>5x - 60 = x</math></li> </ul> <p style="margin-left: 20px;">x = wrong answer</p>	<p><b>Up to 2m</b></p> <p style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">U1</p>	<p>Calculation must be performed for the award of <b>ONE</b> mark.</p> <p>A 'trial and improvement' method must show evidence of improvement, but a final answer need not be reached for the award of <b>ONE</b> mark.</p>

### Test A questions 23–25

Question	Requirement	Mark	Additional guidance
<b>23a</b>	3 hours 35 minutes	<b>1m</b>	<i>The answer is a time interval (see page 5 for guidance).</i>
<b>23b</b>	15:15	<b>1m</b>	<i>The answer is a specific time (see page 5 for guidance). Accept quarter past three.</i>
<b>24</b>	£180	<b>1m</b>	<b>Do not</b> accept 180%.
<b>25</b>	<p>Award <b>TWO</b> marks for the correct answer of 64</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate working, eg</p> <p><math>48 \div 3 = 16</math></p> <p><math>16 \times 4 =</math> wrong answer</p>	<p><b>Up to 2m</b></p> <p>U1</p>	<i>Calculation must be performed for the award of <b>ONE</b> mark.</i>

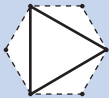

### Test B questions 1–3

Question	Requirement	Mark	Additional guidance
1	One number circled as shown: 750 72 <b>651</b> 69 770	1m	<p><b>Do not</b> award the mark if additional incorrect numbers are circled.</p> <p>Accept alternative unambiguous indications, eg ticks, numbers crossed out or underlined.</p>
2	Diagram completed correctly as shown: 	1m	<p>Accept slight inaccuracies in drawing, provided the intention is clear.</p>
3	Diagram completed correctly as shown: 	1m	<p>Lines need not touch the clocks, provided the intention is clear.</p> <p><b>Do not</b> accept times which have been matched to more than one clock.</p>

### Test B questions 4–9

Question	Requirement	Mark	Additional guidance
4a	2	1m	Accept 100m <b>AND</b> relay.
4b	Blue	1m	Accept B or recognisable misspellings.
5a	8	1m	
5b	80	1m	
6	<p>An explanation which recognises that a multiple of 5 can end in 0 as well as 5, eg</p> <ul style="list-style-type: none"> <li>■ 'Because 10 is a multiple of 5';</li> <li>■ 'Because it can end in 0';</li> <li>■ 'Because some numbers end in 0'.</li> </ul>	<p>1m</p> <p>U1</p>	<p>No mark is awarded for circling 'No' alone.</p> <p><b>Do not</b> accept vague or arbitrary answers, eg</p> <ul style="list-style-type: none"> <li>■ 'Because not all multiples of 5 end in 5'.</li> </ul> <p>If 'Yes' is circled but a correct, unambiguous explanation is given, then award the mark.</p>
7	<p>Calculation completed correctly as shown:</p> $\begin{array}{ c c } \hline 5 & 4 \\ \hline \end{array} \times 2 = \begin{array}{ c c c } \hline 1 & 0 & 8 \\ \hline \end{array}$	<p>1m</p> <p>U1</p>	
8	A <b>AND</b> F	1m	<p>Answers may be given in either order.</p> <p>Accept alternative indications, eg shapes ticked or circled, provided the intention is clear.</p>
9a	£14.60	1m	<b>Do not</b> accept £14.6
9b	<p>Award <b>TWO</b> marks for the correct answer of £4.45</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate method, eg</p> $1.95 + 1.25 + 1.25$	<p>Up to 2m</p>	<p>Accept for <b>ONE</b> mark £445 <b>OR</b> £445p as evidence of an appropriate method.</p> <p>Accept for <b>ONE</b> mark £8.10 <b>OR</b> £19.05 <b>OR</b> the correct total of £4.45 and the answer given for 9a as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>

### Test B questions 10–13

Question	Requirement	Mark	Additional guidance
<b>10a</b>	2002	<b>1m</b>	
<b>10b</b>	2000	<b>1m</b>	
<b>11</b>	<p>Award <b>TWO</b> marks for the correct answer of 384</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate method, eg</p> $7 + 5 + 4 = 16$ $16 \times 24$ <p><b>OR</b></p> $\begin{array}{r} 7 \times 24 \\ 5 \times 24 \\ + 4 \times 24 \\ \hline \end{array}$	<b>Up to 2m</b>	<i>Answer need not be obtained for the award of <b>ONE</b> mark.</i>
<b>12a</b>	<p>Triangle drawn in any orientation as shown:</p> 	<b>1m</b>	<i>Accept slight inaccuracies in drawing, provided the intention is clear.</i>
<b>12b</b>	<p>Triangle drawn in any orientation as shown:</p> 	<b>1m</b>	
<b>13a</b>	£200	<b>1m</b>	
<b>13b</b>	<p>Award <b>TWO</b> marks for the correct answer of 37p <b>OR</b> £0.37</p> <p><b>OR</b></p> <p>for finding the correct difference between £199.63 and the answer given for 13a.</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate method, eg</p> $74.68 + 65.90 + 59.05 = 199.63$ $200 - 199.63$ <p><b>OR</b></p> <p>for evidence of an appropriate method to find the correct difference between £199.63 and the answer given for 13a.</p>	<b>Up to 2m</b>	<p><i>Answer to 13a must be a multiple of £10 for the award of <b>TWO</b> follow-through marks.</i></p> <p><i>Answer need not be obtained for the award of <b>ONE</b> mark.</i></p> <p><i>Accept for <b>ONE</b> mark £37p <b>OR</b> 0.37p <b>OR</b> £37 as evidence of appropriate method.</i></p>

### Test B questions 14–20

Question	Requirement	Mark	Additional guidance
14	$\boxed{3} \boxed{2} \times \boxed{4}$	1m (U1)	
15a	4.4	1m	
15b	1.2 <b>OR</b> for finding the correct difference between 5.6 and the answer given for 15a	1m	
16a	Answer in the range 46m to 47m inclusive.	1m	
16b	55	1m	
17a	$1\frac{1}{2}$ in the first box	1m	Accept equivalent fractions or decimals, eg 1.5
17b	$2\frac{3}{4}$ in the second box	1m	Accept equivalent fractions or decimals, eg 2.75
18	Answer in the range 93 degrees to 97 degrees inclusive.	1m	
19a	813.75	1m	
19b	58.17	1m	<b>Do not</b> accept $-58.17$
20	A = $\boxed{10}$ B = $\boxed{0}$ <b>OR</b> A = $\boxed{8}$ B = $\boxed{3}$ <b>OR</b> A = $\boxed{4}$ B = $\boxed{9}$ <b>OR</b> A = $\boxed{2}$ B = $\boxed{12}$ <b>OR</b> A = $\boxed{0}$ B = $\boxed{15}$	1m (U1)	Answers must be whole numbers. Accept negative numbers, eg A = 12 and B = -3 <b>Do not</b> accept A = 6 and B = 6



### Test B questions 21–24

Question	Requirement	Mark	Additional guidance
21	22	1m	
22	<p>Award <b>TWO</b> marks for the correct answer of 12</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate method, eg</p> $7.2 \div 3 \times 5$	<p>Up to 2m</p> <p>U1</p>	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p> <p>Accept for <b>ONE</b> mark 1.2 <b>OR</b> 120 as evidence of appropriate method.</p>
23	<p>Award <b>TWO</b> marks for the correct answer of 2051</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate method, eg</p> $(4099 + 3) \div 2$ <p><b>OR</b></p> <p>continuation of sequence, eg</p> <p>259, 515, 1027, wrong number</p>	<p>Up to 2m</p>	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>
24	<p>Award <b>TWO</b> marks for the correct answer of 2.4</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of appropriate method, eg</p> $6 \times 8 = 48 \text{ (48g fibre in one loaf)}$ $48 \div 20$ <p><b>OR</b></p> $800 \div 20 = 40 \text{ (one slice weighs 40g)}$ <p>6% of 40</p>	<p>Up to 2m</p>	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>

# Mark scheme for the mental mathematics test

## Applying the mark scheme

Please note that children will not be penalised if they record any information given in the question or show their working. Ignore any annotation, even if in the answer space, and mark only the answer. Accept an unambiguous answer written in the stimulus box, or elsewhere on the page.

Full mark scheme information is given on page 18. In addition, a ‘quick reference’ mark scheme is provided on page 17. This is presented in a similar format to the children’s answer sheet.

## General guidance

The general guidance for marking the written tests also applies to marking the mental mathematics test. In addition, the following principles apply.

1. Unless stated otherwise in the mark scheme, accept answers written in words, or a combination of words and figures.
2. Where units are specified, they are given on the answer sheet. Children are not penalised for writing in the units again.
3. Where answers are required to be ringed, do not accept if more than one answer is ringed, unless it is clear which is the child’s intended answer. Accept also any other way of indicating the correct answer, eg underlining.

# Mental mathematics 2004

## quick reference mark scheme

Practice question

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Time: 5 seconds

<b>1</b>	<b>48</b> hours
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<b>2</b>	<b>38</b>
----------	-----------

<b>3</b>	<b>210</b>
----------	------------

<b>4</b>	<b>6</b>
----------	----------

<b>5</b>	<b>44</b>
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Time: 10 seconds

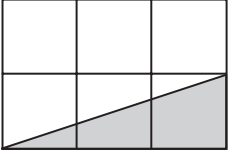
<b>6</b>	<b>99</b>
----------	-----------

<b>7</b>	<p style="text-align: center;">Bus times</p> <p style="text-align: center;">07:15 07:35 07:55 08:15</p>
	<b>20</b> minutes

<b>8</b>	$\frac{1}{20}$ $\frac{1}{100}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{10}$
----------	---

<b>9</b>	<b>£1.65</b>	Accept 165p
----------	--------------	-------------

<b>10</b>	<b>40</b>
-----------	-----------

<b>11</b>	
	$\frac{1}{4}$ Accept 0.25 or equivalent fractions

<b>12</b>	<b>4500</b> m
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<b>13</b>	<b>-14</b> °C	Do <b>not</b> accept 14-
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<b>14</b>	<b>5.2</b>
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<b>15</b>	<b>0.075</b>
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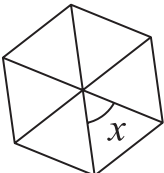
Time: 15 seconds

<b>16</b>	<b>890</b>
-----------	------------

<b>17</b>	<b>55</b>
-----------	-----------

<b>18</b>	100     140     260 <b>300</b> 340
-----------	---------------------------------------

<b>19</b>	<b>220</b> cm <sup>2</sup>
-----------	----------------------------

<b>20</b>	
	<b>60</b> degrees

## Mental mathematics questions 1–20

Question	Requirement	Mark	Additional guidance
1	48 hours	1m	
2	38	1m	
3	210	1m	
4	6	1m	
5	44	1m	
6	99	1m	
7	20 minutes	1m	
8	$\frac{1}{20}$ $\frac{1}{100}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{10}$	1m	<p>Accept any other way of indicating the answer, eg underlining.</p> <p><b>Do not</b> accept if more than one answer is indicated unless the child's intention is clear.</p>
9	£1.65	1m	
10	40	1m	
11	$\frac{1}{4}$	1m	<p>Accept equivalent fractions.</p> <p>Accept 0.25</p>
12	4500m	1m	
13	-14°C	1m	<b>Do not</b> accept 14-
14	5.2	1m	
15	0.075	1m	
16	890	1m	
17	55	1m	
18	<p>100            140            260</p> <p>                  <math>\frac{300}{}</math>            340</p>	1m	<p>Accept any other way of indicating the answer, eg underlining.</p> <p><b>Do not</b> accept if more than one answer is indicated unless the child's intention is clear.</p>
19	220cm <sup>2</sup>	1m	
20	60 degrees	1m	







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