

Marking the mathematics tests

As in 2000, 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 arithmetic and the level 6 extension test C. Level threshold tables will be posted on the QCA website on Friday 22 June (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 4 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.

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 arithmetic test, general guidance on marking is given on page 18, 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. 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 still uncertain, 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.	<p>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.</p> <p>In one-mark questions – 0 marks are awarded.</p> <p>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).</p>	
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.	<p>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:</p> <p>the incorrect answer is due to a transcription error;</p> <p>the child has continued to give redundant extra working which does not contradict work already done;</p> <p>the child has continued to give redundant extra working which does contradict work already done.</p>	<p>If so, the mark will be awarded.</p> <p>If so, the mark will be awarded.</p> <p>If so, the mark will not be awarded.</p>

What if ...	Marking procedure
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 grey 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 of 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 written tests, even those not attempted by the child, will be marked with a '2', '1' or '0' entered in the mark box. A two-mark question which is correct has '2' entered in the mark box. 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 mark box. Otherwise, '0' will be entered in the mark box. For questions in the mental arithmetic tests, marks of either '1' or '0' are possible.

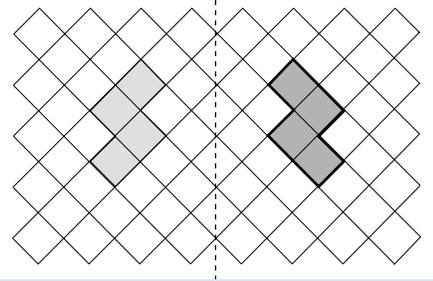
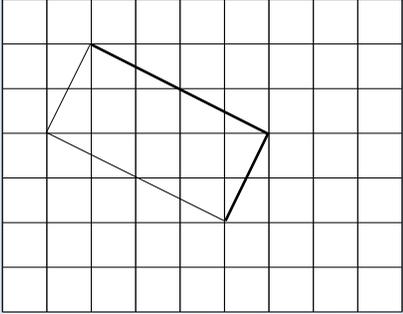
Test A carries a total of 40 marks. Test B also carries a total of 40 marks. The mental arithmetic test carries a total of 20 marks. There is a total of 30 marks available in Test C.

The 2001 key stage 2 mathematics tests and mark schemes were developed by the Mathematics Test Development Team at QCA.

Test A questions 1–3

Question	Requirement	Mark	Additional guidance
1a	65	1m	
1b	8	1m	
1c	180	1m	
2	<input type="text" value="£0.65"/> <input type="text" value="72p"/> <input type="text" value="£2.88"/> <input type="text" value="£5.40"/> <input type="text" value="£10"/>	1m	<p>Accept answers with missing or incorrect units.</p> <p>Accept a misread of the amounts provided this does not alter the correct order intended by the question.</p> <p>Accept the reverse order of the amounts.</p>
3a	12p	1m	Accept 12 if written outside the answer box.
3b	85p OR £0.85	1m	<p>Accept 85 OR 0.85 OR .85 OR £0.85p OR £.85 OR £.85p OR £0 85</p> <p>Do not accept £85p OR 0.85p OR £85</p>

Test A questions 4–7

Question	Requirement	Mark	Additional guidance
4	Diagram completed as shown: 	1m	Shape need not be shaded. Accept slight inaccuracies in drawing provided the intention is clear.
5	1060 1049 1100 960 899	1m	Accept alternative indications, eg the number crossed or underlined.
6	Completion of rectangle as shown: 	1m	Accept slight inaccuracies in drawing provided the intention is clear.
7	90p OR £0.90	1m	Accept 90 OR 0.90 OR £.90 OR £.90p OR .90 OR £0.90p OR £0 90 Do not accept £0.9 OR £90p OR 0.90p OR £90

Test A questions 8–11

Question	Requirement	Mark	Additional guidance																
8	Award TWO marks for the table correctly completed as shown: <table border="1" style="margin: 10px auto;"> <tr> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">✓</td> </tr> <tr> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">✓</td> </tr> </table> If the table is not correctly completed award ONE mark for any two out of three ticks correct.	✓			✓	✓			✓	Up to 2m	Do not accept any row that has both columns ticked. Accept unambiguous alternatives to ticks, eg 'yes'.								
✓																			
	✓																		
✓																			
	✓																		
9a	<table style="margin: 10px auto;"> <tr> <td></td> <td style="border: 1px solid black; padding: 2px 5px;">3</td> <td style="padding: 0 5px;">4</td> <td style="border: 1px solid black; padding: 2px 5px;">2</td> </tr> <tr> <td style="text-align: right;">x</td> <td></td> <td></td> <td style="text-align: right;">6</td> </tr> <tr> <td></td> <td colspan="3" style="border-top: 1px solid black;"></td> </tr> <tr> <td></td> <td style="text-align: right;">2</td> <td style="text-align: right;">0</td> <td style="text-align: right;">5 2</td> </tr> </table> 3 in left hand box		3	4	2	x			6						2	0	5 2	1m	
	3	4	2																
x			6																
	2	0	5 2																
9b	2 in right hand box	1m																	
10a	09:55 OR 9:55	1m	Accept 21:55 OR 955 OR 2155 Accept 'five to ten' or equivalent. Ignore am or pm.																
10b	11:45	1m	Accept 23:45 OR 1145 OR 2345 Accept 'quarter to twelve' or equivalent. Ignore am or pm.																
11	121	1m																	

Test A questions 12–14

Question	Requirement	Mark	Additional guidance
12	<p>Award TWO marks for numbers placed in boxes as shown below:</p> <div style="text-align: center;"> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 0 auto; text-align: center;">17</div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 0 auto; text-align: center;">20</div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 0 auto; text-align: center;">9</div> </div> <p>If the answer is incorrect, award ONE mark for two numbers correctly placed.</p>	Up to 2m	<p>Do not accept a number repeated in different boxes.</p> <p>Ignore any numbers on the diagram other than those given.</p>
13	270°	1m	
14	<p>Award TWO marks for the correct answer of £2.47</p> <p>If the answer is incorrect, award ONE mark for evidence of appropriate working, eg</p> <p>$(4 + 6 + 7) - 14.50 = 2.50$ $250 - 3 =$ wrong answer</p>	Up to 2m	<p>Accept for TWO marks £2.47p OR £2 47</p> <p>Accept for ONE mark £247p OR £247 OR 2470 OR 24.7 as evidence of appropriate working.</p> <p>Calculation must be performed for the award of ONE mark.</p>

Test A questions 15–17

Question	Requirement	Mark	Additional guidance
15a	Statements ticked and crossed as shown below: <div style="text-align: center;"> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>	1m	Accept alternative unambiguous indications, eg 'Y' or 'N' Do not accept statements, which are not ticked, crossed or otherwise clearly marked.
15b	An explanation which recognises that the highest possible score on each spinner is 3 and that $3 + 3 < 7$, eg <ul style="list-style-type: none"> ■ 'The best score is $3 + 3$'; ■ 'On the spinners there are only the numbers 1 to 3 so they must add up to less than 7'; ■ 'Because even if you add the highest number on each spinner the answer would be 6'. 	1m	No mark is awarded for circling 'Yes' alone. Do not accept vague or ambiguous explanations, eg <ul style="list-style-type: none"> ■ 'Because $1 + 2 + 3$ do not add up to 7'; ■ 'The numbers add up to less than 7'; ■ 'I know because they won't add up to more than 7'. If 'No' is circled but a correct unambiguous explanation is given then award the mark.
16	689	1m	
17a	Answer in the range 101mm to 103mm inclusive.	1m	
17b	Answer in the range 21 degrees to 23 degrees inclusive.	1m	

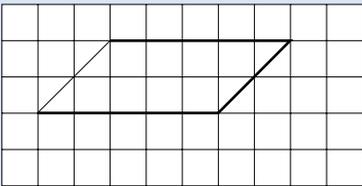
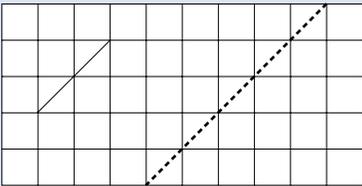
Test A questions 18–20

Question	Requirement	Mark	Additional guidance
18	<p>Award TWO marks for the correct answer of 12216</p> <p>If the answer is incorrect, award ONE mark for evidence of appropriate working which contains no more than ONE arithmetical error, eg</p> <ul style="list-style-type: none"> conventional algorithms such as: $\begin{array}{r} 509 \\ \times 24 \\ \hline 2036 \\ 10180 \\ \hline \text{wrong} \\ \text{answer} \end{array}$ <p>OR</p> <ul style="list-style-type: none"> decomposition methods, eg $24 \times 500 = 12000$ $24 \times 9 = 216$ $12000 + 216 = \text{wrong answer}$ 	Up to 2m	<p>In all cases accept follow through of ONE error in working.</p> <p>Do not award any marks if:</p> <ul style="list-style-type: none"> the error is in the place value, for example the omission of the zero when multiplying by the 2 tens; the final (answer) line of digits is missing. <p>Variations on algorithms are acceptable, provided they represent viable and complete methods.</p> <p>Calculation must be performed for the award of ONE mark.</p>
19	<p>Fractions completed as shown below:</p> $\frac{\boxed{6}}{10} \quad \frac{\boxed{9}}{15}$ $\frac{\boxed{20}}{12}$	1m	All three fractions must be correct for the award of the mark.
20a	(15, 40)	1m	
20b	(20, 0)	1m	<p>Accept answers written on the diagram with or without brackets and commas.</p> <p>Coordinates must be written in the correct order.</p>

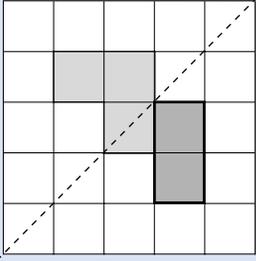
Test A questions 21–22

Question	Requirement	Mark	Additional guidance
21	<p>Award TWO marks for the correct answer of 4cm.</p> <p>If the answer is incorrect award ONE mark for evidence of appropriate working, eg</p> <p>$1 + 2 + 2 = 5$</p> <p>$20 \div 5 =$ wrong answer</p>	Up to 2m	<i>Calculation must be performed for the award of ONE mark.</i>
22a	£17 500	1m	<i>Accept 17500 with or without commas or spaces.</i>
22b	<p>An explanation which recognises that November sales were double October, eg</p> <ul style="list-style-type: none"> ■ 'October was 7500 and November was 7500 more which is 100%'; ■ 'November is twice October, which is 200%'. 	1m	<p><i>No mark is awarded for circling 'Yes' alone.</i></p> <p>Do not accept vague or arbitrary answers, eg</p> <ul style="list-style-type: none"> ■ 'November is more than October'; ■ 'Because November is £15000'. <p><i>If 'No' is circled but a correct unambiguous explanation is given then award the mark.</i></p>

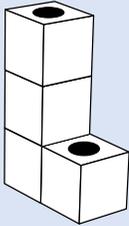
Test A questions 23–25

Question	Requirement	Mark	Additional guidance
23	<p>Award TWO marks for the correct answer of 12</p> <p>If the answer is incorrect, award ONE mark for evidence of appropriate working, eg</p> $25 - 1 = 24$ $24 \div 2 = \text{wrong answer}$	Up to 2m	<i>Calculation must be performed for the award of ONE mark.</i>
24	69	1m	
25	<p>Diagram completed as shown below:</p>  <p>OR</p> <p>any parallelogram using the given line, and part of the broken line shown below.</p> 	1m	<p><i>Accept slight inaccuracies in drawing provided the intention is clear.</i></p> <p><i>The shape need not be shaded.</i></p>

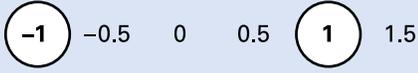
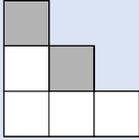
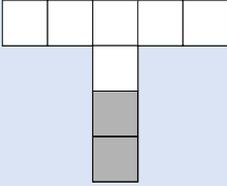
Test B questions 1–4

Question	Requirement	Mark	Additional guidance
1	10 30 50 70 90	1m	Do not accept numbers circled twice.
2	50	1m	
3	<p>Squares shaded as shown:</p> 	1m	<p>Accept alternative unambiguous indications, eg squares crossed.</p> <p>Accept slight inaccuracies in the shading, provided the intention is clear.</p>
4a	Nicola	1m	Accept recognisable misspellings.
4b	2	1m	Accept the names Lena and Rashid.

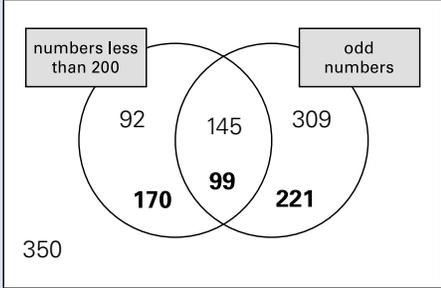
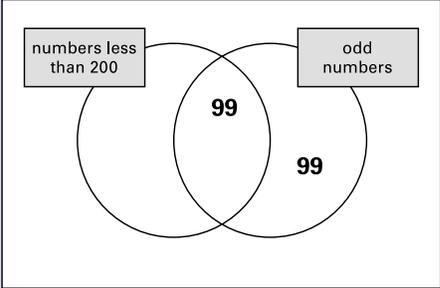
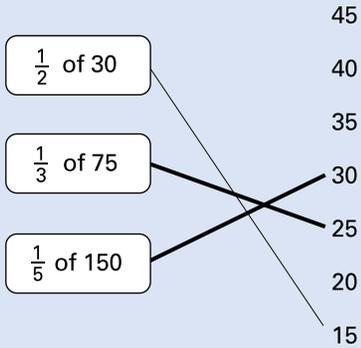
Test B questions 5–9

Question	Requirement	Mark	Additional guidance
5a	140	1m	
5b	12	1m	
6	<p>Award TWO marks for the use of five of the given number cards to complete addition appropriately, ie</p> $\begin{array}{r} 4 \ 9 \ 9 \\ + \ 4 \ 9 \\ \hline 5 \ 4 \ 8 \end{array}$ <p>OR</p> $\begin{array}{r} 4 \ 4 \ 9 \\ + \ 9 \ 9 \\ \hline 5 \ 4 \ 8 \end{array}$ <p>If the answer is incorrect award ONE mark for 9 in the units column of both numbers, ie</p> $\begin{array}{r} \times \ \times \ 9 \\ + \ \times \ 9 \\ \hline 5 \ 4 \ 8 \end{array}$	Up to 2m	No mark is awarded if digits other than 4 or 9 are used.
7	<p>Any pair of numbers with quotient 10, eg</p> $\left(\boxed{20} \div \boxed{2} \right) + 90 = 100$	1m	Numbers must be in correct order.
8	<p>Both circles drawn on faces as shown:</p> 	1m	The size and accuracy of the circles is unimportant, provided the correct faces are indicated.
9a	£7.50	1m	Accept £7.50p OR £7 50 Do not accept £7.5 OR £750p OR £750
9b	3:50 pm	1m	Accept '10 to 4' or equivalent. Accept 15:50 OR 350 OR 1550

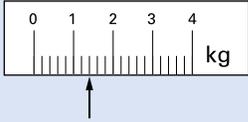
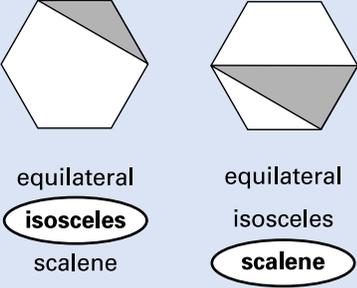
Test B questions 10–12

Question	Requirement	Mark	Additional guidance
10a	<p>Award TWO marks for the correct answer of 192 OR £192.00</p> <p>If the answer is incorrect award ONE mark for evidence of an appropriate method, eg</p> $£8.50 \times 12 = £102$ $£4.50 \times 20 = £90$ $\text{cost} = £102 + £90$	Up to 2m	<p>Accept for TWO marks £192.00p OR £192 00</p> <p>Accept for ONE mark £192p OR £19200 OR £1.92 OR £19.20 OR £1920 as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of the mark.</p>
10b	16	1m	
11	<p></p> <p>OR</p> <p></p>	1m	Accept alternative indications, eg the numbers crossed or underlined.
12a	<p>Equivalent of 2 squares shaded, eg</p> 	1m	Accept part squares shaded as long as the intention is clear.
12b	<p>Equivalent of 2 squares shaded, eg</p> 	1m	<p>Accept part squares shaded as long as the intention is clear.</p> <p>Accept inaccuracies in shading providing the intention is clear.</p>

Test B questions 13–16

Question	Requirement	Mark	Additional guidance
<p>13</p>	<p>Award TWO marks for all three numbers correctly placed in the regions as shown:</p>  <p>If the answer is incorrect, award ONE mark for two numbers correctly placed.</p>	<p>Up to 2m</p>	<p>Do not accept a number repeated in different regions, eg</p>  <p>Do not penalise answers which offer additional numbers (other than 99, 170, and 221) on the diagram, whether correctly placed or not.</p>
<p>14</p>	<p>Diagram completed correctly as shown:</p> 	<p>1m</p>	<p>Lines need not touch boxes or numbers exactly, provided the intention is clear.</p> <p>Do not accept two or more lines emanating from the same left-hand box.</p>
<p>15</p>	<p>B AND D</p>	<p>1m</p>	<p>Accept letters in either order.</p> <p>Accept unambiguous indications on the diagram.</p>
<p>16</p>	<p>9.8</p>	<p>1m</p>	

Test B questions 17–19

Question	Requirement	Mark	Additional guidance
17	Arrow marked on scale as shown: 	1m	Accept slight inaccuracies, provided the intention is clear. Accept alternative unambiguous indications, eg cross on scale. Do not accept the number '1.4' alone.
18	Correct names indicated as shown: 	1m	Accept alternative, unambiguous indications such as underlining the correct name. Both must be correct for the award of the mark.
19a	$\frac{3}{4}$ OR 0.75	1m	Accept equivalent fractions.
19b	Award TWO marks for the correct answer of 625 If the answer is incorrect, award ONE mark for evidence of an appropriate method, eg 2.5×250 OR $250 + 250 + 125$	Up to 2m	Accept for ONE mark 0.625 OR 6.25 OR 62.5 OR 6250 as evidence of appropriate method. Calculation need not be performed for the award of the mark.

Test B questions 20–27

Question	Requirement	Mark	Additional guidance
20	49	1m	
21	$404.09 \div \boxed{47.54} = 8.5$	1m	
22	<p>Explanation which recognises that each number is one more than a multiple of 3, eg</p> <ul style="list-style-type: none"> ■ 'It starts at 1 and keeps adding 3 so it misses all the multiples of 3'; ■ 'Multiples of 3 are all 1 less than the numbers'. 	1m	<p>No mark is awarded for circling 'Yes' alone.</p> <p>Do not accept vague or arbitrary explanations such as</p> <ul style="list-style-type: none"> ■ 'They're too big'; ■ 'It doesn't go far enough'; ■ 'It is adding 3 all the time'. <p>If 'No' is circled but a correct unambiguous explanation is given then award the mark.</p>
23	3 AND 7 AND 11	1m	Accept numbers in any order.
24	157.5 OR $157\frac{1}{2}$	1m	
25a	Answer in the range 18 minutes to 19 minutes inclusive.	1m	
25b	Answer in the range 6 minutes to $7\frac{1}{2}$ minutes inclusive.	1m	
26	<p>Award TWO marks for the correct answer of 18°</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, eg</p> $90 - 60 - 12$	Up to 2m	Calculation need not be performed for the award of the mark.
27	<p>Award TWO marks for the correct answer of $p = 575$ AND $q = 425$</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, eg</p> $q + q + 150 = 1000$ $q + q = 850$ $q = 850 \div 2$ $p = q + 150$	Up to 2m	<p>Both p and q must be correct for the award of the marks.</p> <p>Accept for ONE mark, answers given in the wrong order, ie</p> $p = 425 \text{ AND } q = 575$

Mark scheme for the mental arithmetic 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. Markers will ignore any annotation, even if in the answer space, and mark only the answer. Markers will accept an unambiguous answer written in the stimulus box, or elsewhere on the page.

Full mark scheme information is given on pages 20 and 21. In addition a 'quick reference' mark scheme is provided on page 19. This is presented in a similar format to the children's answer sheet.

General guidance

The general guidance for the marking of the written tests also applies to the marking of the mental test. In addition, please apply the principles below:

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. Do not penalise children 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 arithmetic 2001

quick reference mark scheme

Practice question

	33
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Time: 5 seconds

1	6
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2	45
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3	39
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4	0.75	Accept .75
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5	0.026	Accept .026
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Time: 10 seconds

6	430
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7	3:20 pm	Accept 15:20
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8	76
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9	3 m	Accept 3.0 or 3.00
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10	31	Accept 31.0
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11	60 cm
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12	300
----	-----

13	2g 20g 200g	2kg 20kg
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14	34
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15	0.25 0.52 0.5 0.4 0.2
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Time: 15 seconds

16	78
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17	600 700 800 900 1000
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18	0.27 0.207 0.027	2.07 2.7
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19	5.65
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20	35 °
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Mental arithmetic questions 1–10

Question	Requirement	Mark	Additional guidance
1	6	1m	
2	45	1m	
3	39	1m	
4	0.75	1m	Accept .75
5	0.026	1m	Accept .026
6	430	1m	
7	3:20 pm	1m	Accept 15:20 OR 320 OR 1520 OR twenty past three
8	76	1m	
9	3	1m	Accept 3.0 OR 3.00
10	31	1m	Accept 31.0

Mental arithmetic questions 11–20

Question	Requirement	Mark	Additional guidance
11	60	1m	
12	300	1m	
13	2g 20g 200g 2kg 20kg	1m	Accept any other way of indicating the answer, eg underlining. Do not accept if more than one answer is indicated unless the child's intention is clear.
14	34	1m	
15	0.25 0.52 0.5 0.4 0.2	1m	Accept any other way of indicating the answer, eg underlining. Do not accept if more than one answer is indicated unless the child's intention is clear.
16	78	1m	
17	600 700 800 900 1000	1m	Accept any other way of indicating the answer, eg underlining. Do not accept if more than one answer is indicated unless the child's intention is clear.
18	0.27 0.207 0.027 2.07 2.7	1m	Accept any other way of indicating the answer, eg underlining. Do not accept if more than one answer is indicated unless the child's intention is clear.
19	5.65	1m	
20	35	1m	

Test C questions 1–4

Question	Requirement	Mark	Additional guidance
1a	<div style="border: 1px solid black; display: inline-block; padding: 2px;">1210</div> 120 11 0.1 <div style="border: 1px solid black; display: inline-block; padding: 2px; margin-left: 20px;">-0.99</div> 1210 in left-hand box.	1m	
1b	-0.99 in right-hand box.	1m	Do not accept '0.99-' Do not accept ' $\frac{-9.9}{10}$ '
2	Any two decimals, each less than 1, with a product of 0.1, eg <div style="border: 1px solid black; display: inline-block; padding: 2px;">0.5</div> × <div style="border: 1px solid black; display: inline-block; padding: 2px;">0.2</div> OR <div style="border: 1px solid black; display: inline-block; padding: 2px;">0.4</div> × <div style="border: 1px solid black; display: inline-block; padding: 2px;">0.25</div>	1m	Accept negative numbers, eg <div style="border: 1px solid black; display: inline-block; padding: 2px;">-0.5</div> × <div style="border: 1px solid black; display: inline-block; padding: 2px;">-0.2</div>
3	<div style="border: 1px solid black; display: inline-block; padding: 2px;">9</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">4</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">0</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">9</div>	1m	Accept 97^2
4a	Answer in the range 5.9 to 6.2 seconds inclusive.	1m	
4b	Answer in the range 17.5m to 18.5m inclusive.	1m	

Test C questions 5–7

Question	Requirement	Mark	Additional guidance
5a	$x = 155^\circ$	1m	<i>If answers for 5a and 5b are transposed, but otherwise correct, award ONE mark only, in the 5b box.</i>
5b	$y = 85^\circ$	1m	
6	Award TWO marks for the correct answer of 9 If the answer is incorrect, award ONE mark for evidence of an appropriate method, eg algebraic manipulation to reach $7u = 63$	Up to 2m	
7a	Award TWO marks for the correct answer of 1.5% If the answer is incorrect, award ONE mark for evidence of an appropriate method, eg $93 \div 6200 \times 100$	Up to 2m	<i>Calculation need not be completed for the award of the mark.</i>
7b	Award TWO marks for a calculation that demonstrates that Mike is correct, ie that 93 000 000 each year is equivalent to approximately 177 people each minute. Award ONE mark for evidence of an appropriate method to calculate the equivalent increase in population each minute, eg $93\,000\,000 \div 365 \div 24 \div 60$	Up to 2m	<i>Ignore any incorrect rounding of a correct calculation.</i> <i>Calculation need not be completed for the award of the mark.</i> <i>Accept methods that use any of the following for the number of days in the year:</i> 365 OR 366 OR 365.25 OR 52×7 <i>Accept for ONE mark the correct method even if it leads to the wrong conclusion.</i>

Test C questions 8–9

Question	Requirement	Mark	Additional guidance
8a	Award TWO marks for the correct answer of 121 If the answer is incorrect, award ONE mark for evidence of an appropriate method, eg $40 \times 3 + 1$	Up to 2m	<i>Calculation need not be completed for the award of the mark.</i>
8b	$q = 3n + 1$	1m	Accept equivalent expressions, eg $q = n \times 3 + 1$ $q = n + n + n + 1$ $q = 1 + n3$ Accept the answer in words, eg 'q is 3 times n then add 1'.
9	Award TWO marks for the correct answer of 5cm If the answer is incorrect award ONE mark for evidence of an appropriate method, eg $2n \times n \times n = 250$ so $n \times n \times n = 125$	Up to 2m	<i>The calculation need not be completed for the award of the mark, but $n \times n \times n = 125$ OR $n^3 = 125$ must be reached.</i>

Test C questions 10–12

Question	Requirement	Mark	Additional guidance												
10	<p>Award TWO marks for the correct answer of 108cm^2</p> <p>If the answer is incorrect award ONE mark for evidence of an appropriate method, eg</p> $36 \div 2 = 18$ $24 \div 2 = 12$ $\text{area} = \frac{1}{2} \times 12 \times 18$	Up to 2m	<p>Calculation need not be completed for the award of the mark.</p> <p>No mark is awarded for the result of calculating 12×18 only.</p>												
11	<p>Award TWO marks for the table completed correctly as shown:</p> <table border="1" data-bbox="349 696 750 968"> <thead> <tr> <th>always true</th> <th>sometimes true</th> <th>never true</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td style="text-align: center;">✓</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">✓</td> <td></td> <td></td> </tr> </tbody> </table> <p>If the answer is incorrect, award ONE mark for two out of three ticks correctly placed.</p>	always true	sometimes true	never true		✓		✓			✓			Up to 2m	<p>Accept alternative indications, eg crosses in the table.</p> <p>Do not accept any row that has ticks in more than one column.</p>
always true	sometimes true	never true													
	✓														
✓															
✓															
12	<p>Any pair of coordinates for the graph $y = x - 7$ that lie between $(0, -7)$ and $(7, 0)$, eg</p> <p>$(1, -6)$ OR $(2, -5)$ OR</p> <p>$(3, -4)$ OR $(4, -3)$ OR</p> <p>$(5, -2)$ OR $(6, -1)$ OR $(3\frac{1}{2}, -3\frac{1}{2})$ etc.</p>	1m	<p>Accept decimals and fractions provided they are correct for the graph $y = x - 7$</p> <p>Coordinates must be written in the correct order.</p>												

Test C questions 13–15

Question	Requirement	Mark	Additional guidance
13	<p>Award TWO marks for the correct answer of 52</p> <p>If the answer is incorrect award ONE mark for evidence of an appropriate method, eg</p> $51 \times 10 = 510$ <p>so number of matches =</p> $510 - ((49 \times 3) + (50 \times 2) + (54 \times 2) + 51 + 52)$	Up to 2m	<i>The calculation need not be completed for the award of the mark.</i>
14a	L is (30, -20)	1m	<i>Coordinates must be in the correct order.</i>
14b	M is (-10, 0)	1m	<i>Accept answers on the diagram, with or without commas or brackets.</i>
15	<p>Award TWO marks for the correct answer of 184</p> <p>If the answer is incorrect award ONE mark for evidence of an appropriate method, eg</p> $46 \div 2 \times 8$	Up to 2m	<i>The calculation need not be completed for the award of the mark.</i>

The following blank pages may be used for your own notes

