

National Curriculum Baseline Test

# Key Stage 2

## Mathematics test mark schemes

Paper 1: arithmetic

Paper 2: reasoning

Paper 3: reasoning

# Mark schemes for Paper 1: arithmetic

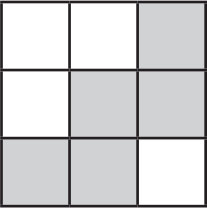
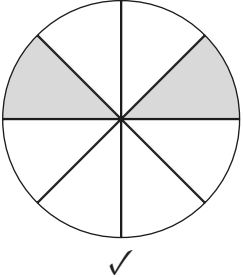
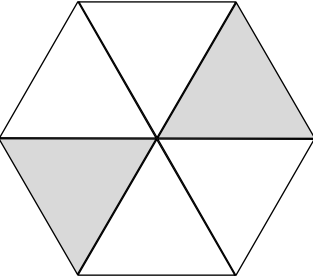
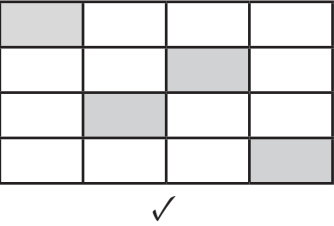
Qu	Requirement	Mark	Additional Guidance
1	445	1m	
2	2,323	1m	
3	$10/8$ or $1\frac{1}{4}$	1m	Accept either equivalent mixed numbers, fractions <u>or</u> an <b>exact</b> decimal equivalent.  Do not accept rounded or truncated decimals.
4	419	1m	
5	786	1m	
6	7.423	1m	
7	9,200	1m	
8	308	1m	
9	7	1m	
10	789	1m	
11	7,523	1m	
12	$12/25$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
13	3,589	1m	
14	47	1m	
15	$1/4$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
16	4800	1m	
17	67	1m	
18	0.009	1m	
19	7,184,000	1m	

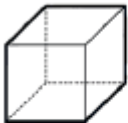

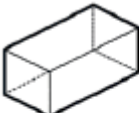

Qu	Requirement	Mark	Additional Guidance
20	Award <b>TWO</b> marks for the correct answer of 24.  If the answer is incorrect, award <b>ONE</b> mark for a formal method of division with no more than <b>ONE</b> arithmetic error.	Up to 2m	Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.
21	2.15	1m	
22	Award <b>TWO</b> marks for the correct answer of 102,207.  If the answer is incorrect, award <b>ONE</b> mark for a formal method of long multiplication with no more than <b>ONE</b> arithmetic error.	Up to 2m	Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.  <b>Do not</b> award any marks if the error is in the place value e.g. the omission of the zero when multiplying by tens.
23	$\frac{1}{5}$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
24	Award <b>TWO</b> marks for the correct answer of 11,247.  If the answer is incorrect, award <b>ONE</b> mark for a formal method of long multiplication with no more than <b>ONE</b> arithmetic error.	Up to 2m	Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.  <b>Do not</b> award any marks if the error is in the place value e.g. the omission of the zero when multiplying by tens.
25	32.107	1m	
26	$\frac{14}{15}$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
27	$5\frac{1}{7}$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
28	$\frac{3}{32}$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
29	98	1m	<b>Do not</b> accept 98%.
30	$4\frac{5}{6}$	1m	Accept either equivalent mixed numbers, fractions <u>or</u> an <b>exact</b> decimal equivalent.  Do not accept rounded or truncated decimals.

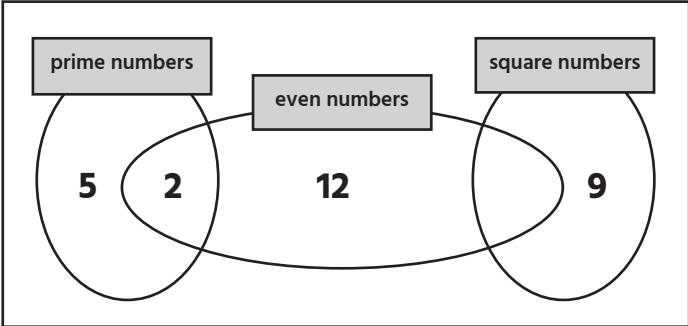
Qu	Requirement	Mark	Additional Guidance
31	72	1m	<b>Do not</b> accept 72%.
32	$\frac{1}{2}$	1m	Accept either equivalent mixed numbers, fractions <u>or</u> an <b>exact</b> decimal equivalent.
33	168	1m	
34	1,700	1m	<b>Do not</b> accept 1,700%.
35	$42\frac{1}{2}$	1m	Accept equivalent fractions or an <b>exact</b> decimal equivalent.
36	<p>Award <b>TWO</b> marks for the correct answer of 76.</p> <p>If the answer is incorrect, award <b>ONE</b> mark for a formal method of division with no more than <b>ONE</b> arithmetic error.</p>	Up to 2m	Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.

# Mark schemes for Paper 2: reasoning

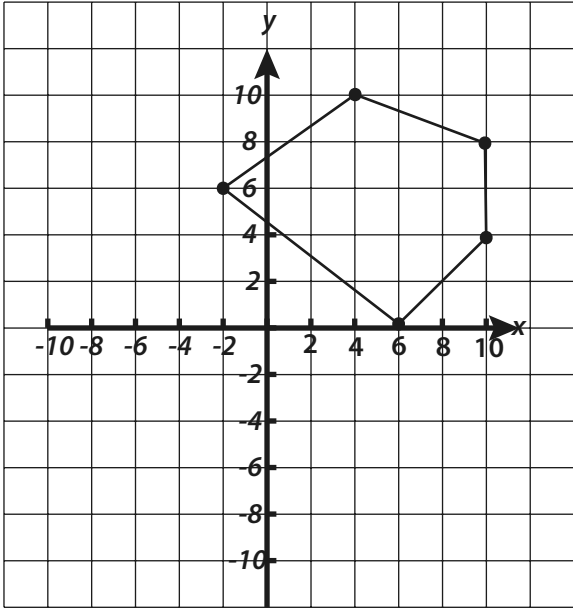

Qu	Requirement	Mark	Additional Guidance												
1a 1b	31 6	1m 1m													
2	The correct number circled as shown: 304 (3,040) 3,400 3,004 340	1m													
3	Three boxes completed correctly as shown: <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border: none; padding: 5px;"><b>x</b></td> <td style="border: 1px solid black; padding: 5px; text-align: center;"><b>7</b></td> <td style="border: 1px solid black; padding: 5px; text-align: center;"><b>6</b></td> </tr> <tr> <td style="border: none; padding: 5px;"></td> <td style="border: none; padding: 5px;"></td> <td style="border: none; padding: 5px;"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center;">8</td> <td style="padding: 5px;">56</td> <td style="padding: 5px;">48</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center;">7</td> <td style="padding: 5px;">49</td> <td style="padding: 5px;">42</td> </tr> </table>	<b>x</b>	<b>7</b>	<b>6</b>				8	56	48	7	49	42	1m	
<b>x</b>	<b>7</b>	<b>6</b>													
8	56	48													
7	49	42													
4	Award <b>TWO</b> marks for the correct answer of 1,946m.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.  <ul style="list-style-type: none"> <li>• <math>4,700 + 346 = 5,046</math></li> <li>• <math>6,992 - 5,046 = 1,946</math></li> </ul>	Up to 2m	Answer need not be obtained for the award of <b>ONE</b> mark.												
5	Award <b>TWO</b> marks for three boxes completed correctly as shown: <table style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #e0f2f1;"> <th style="padding: 5px;">Number</th> <th style="padding: 5px;">1,000 less</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">1,300</td> <td style="padding: 5px;">300</td> </tr> <tr> <td style="padding: 5px;">4,921</td> <td style="padding: 5px;">3,921</td> </tr> <tr> <td style="padding: 5px;">1,472</td> <td style="padding: 5px;">472</td> </tr> <tr> <td style="padding: 5px;">30,645</td> <td style="padding: 5px;">29,645</td> </tr> </tbody> </table> If the answer is incorrect, award <b>ONE</b> mark for two boxes completed correctly.	Number	1,000 less	1,300	300	4,921	3,921	1,472	472	30,645	29,645	Up to 2m			
Number	1,000 less														
1,300	300														
4,921	3,921														
1,472	472														
30,645	29,645														

Qu	Requirement	Mark	Additional Guidance
6	Numbers in order as shown: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 10px;">1.827</div> <div style="border: 1px solid black; padding: 2px 10px;">1.782</div> <div style="border: 1px solid black; padding: 2px 10px;">0.649</div> <div style="border: 1px solid black; padding: 2px 10px;">0.308</div> </div>	1m	
7	Award <b>TWO</b> marks for three boxes completed correctly as shown: 144 hours = <span style="border: 1px solid black; padding: 2px 10px; margin: 0 10px;">6</span> days  63 days = <span style="border: 1px solid black; padding: 2px 10px; margin: 0 10px;">9</span> weeks  96 months = <span style="border: 1px solid black; padding: 2px 10px; margin: 0 10px;">8</span> years  If an answer is incorrect, award <b>ONE</b> mark for two boxes completed correctly.	Up to 2m	
8	Award <b>TWO</b> marks for the correct answer of 634.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.	Up to 2m	Answer need not be obtained for the award of <b>ONE</b> mark.
9	Both shapes circled as shown: <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>	1m	Accept alternative unambiguous positive indications e.g. shapes circled.



Qu	Requirement	Mark	Additional Guidance
10	<p>Award <b>TWO</b> marks for three boxes completed correctly as shown:</p> <p style="text-align: center;">to the nearest 10 <span style="border: 1px solid black; padding: 2px 10px;">37,450</span></p> <p style="text-align: center;">to the nearest 100 <span style="border: 1px solid black; padding: 2px 10px;">37,500</span></p> <p style="text-align: center;">to the nearest 1,000 <span style="border: 1px solid black; padding: 2px 10px;">37,000</span></p> <p>If an answer is incorrect, award <b>ONE</b> mark for two boxes completed correctly.</p>	Up to 2m	
11a	145 minutes	1m	The answer is a time interval.
11b	1kg	1m	
12	<p>Award <b>TWO</b> marks for both shapes ticked as shown:</p> <div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-right: 20px;">Cube</div> <input checked="" type="checkbox"/> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-right: 20px;">Cone</div> <input type="checkbox"/> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-right: 20px;">Rectangular prism</div> <input checked="" type="checkbox"/> </div> <div style="display: flex; align-items: center;">  <div style="margin-right: 20px;">Triangular prism</div> <input type="checkbox"/> </div> </div> <p>If the answer is incorrect, award <b>ONE</b> mark for:</p> <ul style="list-style-type: none"> <li>• the two shapes and not more than one incorrect shape ticked</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• only one correct shape ticked and no incorrect shape ticked.</li> </ul>	Up to 2m	Accept alternative unambiguous positive indications e.g. Y.

Qu	Requirement	Mark	Additional Guidance
13	<p>Award <b>TWO</b> marks for the correct answer of £4.93.</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.</p>	Up to 2m	<p>Accept <b>ONE</b> mark for an answer of £493 or 493p as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>
14	24	1m	
15	1066	1m	<b>Do not</b> accept 'ten thousand and sixty-six' in words.
16		1m	<p>Accept alternative unambiguous indications e.g. lines drawn from the numbers to the appropriate regions of the diagram.</p> <p><b>Do not</b> accept numbers written in more than one region.</p>
17	$\frac{\boxed{3}}{4} = \frac{18}{24} = \frac{9}{\boxed{12}}$	1m	



Qu	Requirement	Mark	Additional Guidance
18	Pentagon completed as shown: 	1m	Accept slight inaccuracies in drawing.
19	Numbers circled as shown: 	1m	
20	£680	1m	
21a	38	1m	
21b	24	1m	
22	Award <b>TWO</b> marks for the correct answer of 59°F.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.	Up to 2m	Answer need not be obtained for the award of <b>ONE</b> mark.
23	Award <b>TWO</b> marks for the correct answer of 35m.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.	Up to 2m	Answer need not be obtained for the award of <b>ONE</b> mark.
24	65°	1m	

# Mark schemes for Paper 3: reasoning

Qu	Requirement	Mark	Additional Guidance
1	5	1m	
2	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">4</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">12</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">36</div> </div>	1m	
3a	12:34	1m	
3b	15:08	1m	
4	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 60px;">05:37</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 60px;">07:25</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 60px;">08:25</div> </div> <div style="text-align: center; margin: 5px 0;">✓</div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 60px;">17:25</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 60px;">19:25</div> </div> <div style="text-align: center; margin: 5px 0;">✓</div>	1m	Accept alternative unambiguous positive indications, e.g. clocks circled or underlined.
5	<p>The triangle has moved <span style="border: 1px solid black; padding: 2px 10px;">5</span> squares to the left</p> <p>and <span style="border: 1px solid black; padding: 2px 10px;">2</span> squares down.</p>	1m	
6a	 = 13	1m	
6b	 = 26	1m	
7	10	1m	
8	<p>Award <b>TWO</b> marks for the correct answer of 2.63.</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.</p>	<p><b>Up to 2m</b></p>	<p>Accept for <b>ONE</b> mark an answer of 263 metres as evidence of an appropriate method.</p> <p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>

Qu	Requirement	Mark	Additional Guidance
9a	2°C	1m	
9b	17°C	1m	
10	<p>Award <b>TWO</b> marks for all four rows completed correctly as shown:</p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-bottom: 10px; display: flex; justify-content: space-around; align-items: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 5px;"><math>1\frac{1}{3}</math></span> <span>1.3</span> </div> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-bottom: 10px; display: flex; justify-content: space-around; align-items: center;"> <span><math>1\frac{1}{5}</math></span> <span style="border: 1px solid black; border-radius: 50%; padding: 5px;">1.5</span> </div> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-bottom: 10px; display: flex; justify-content: space-around; align-items: center;"> <span><math>1\frac{8}{100}</math></span> <span style="border: 1px solid black; border-radius: 50%; padding: 5px;">1.8</span> </div> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; display: flex; justify-content: space-around; align-items: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 5px;"><math>1\frac{5}{6}</math></span> <span>1.6</span> </div> <p>If the answer is incorrect, award <b>ONE</b> mark for three rows completed correctly.</p>	Up to 2m	Accept alternative unambiguous positive indications, e.g. numbers ticked.
11	226g or 0.226kg	1m	<b>Do not</b> accept incorrect units.
12	95	1m	
13	<p>An explanation that shows that Polly has three times as many pencils as Harry, e.g.</p> <ul style="list-style-type: none"> <li>• 9 x 6 is 3 times as many as 6 x 3</li> </ul>	1m	<b>Do not</b> accept vague or incomplete explanations.
14a	a	1m	
14b	b and c	1m	

Qu	Requirement	Mark	Additional Guidance
15	Award <b>TWO</b> marks for the correct answer of £0.60.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.	Up to 2m	Accept for <b>ONE</b> mark an answer of £60p or £0.6 as evidence of an appropriate method.  Answer need not be obtained for the award of <b>ONE</b> mark.
16	Both numbers correct as shown:  <div style="display: flex; align-items: center; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">27</div> <div style="font-size: 24px;">+</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">3</div> <div style="font-size: 24px;">=</div> <div style="font-size: 24px;">30</div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 5px;"> <div style="text-align: center; width: 40%;">cube number</div> <div style="text-align: center; width: 40%;">prime number</div> </div>	1m	Numbers must be in the correct order.  <b>Do not</b> accept:  <div style="display: flex; align-items: center; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">3<sup>3</sup></div> <div style="font-size: 24px;">+</div> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px;">3</div> <div style="font-size: 24px;">=</div> <div style="font-size: 24px;">30</div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 5px;"> <div style="text-align: center; width: 40%;">cube number</div> <div style="text-align: center; width: 40%;">prime number</div> </div>
17	Award <b>TWO</b> marks for 19, 20 <b>AND</b> 21.  If the answer is incorrect, award <b>ONE</b> mark for: <ul style="list-style-type: none"> <li>• only two correct numbers and no incorrect number</li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>• 19, 20 <b>AND</b> 21 <b>AND</b> not more than one incorrect number.</li> </ul>	Up to 2m	Accept for <b>ONE</b> mark an answer of 57 <b>AND</b> 60 <b>AND</b> 63 <b>AND</b> no more than one incorrect number.
18	Award <b>TWO</b> marks for the correct answer of 7,392.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method with no more than one arithmetic error.	Up to 2m	Misreads are <b>not</b> allowed.
19	Award <b>TWO</b> marks for the correct answer of £21.30.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.	Up to 2m	Accept for <b>ONE</b> mark an answer of £2,130 <b>OR</b> £2,130p <b>OR</b> £21.3 as evidence of an appropriate method. Answer need not be obtained for the award of <b>ONE</b> mark.

Qu	Requirement	Mark	Additional Guidance
20	Numbers circled as shown: <div style="display: flex; align-items: center; justify-content: center; gap: 10px;"> <span>2</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 10px;">20</span> <span>100,000</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 10px;">50,000</span> <span>500</span> </div>	1m	Accept alternative unambiguous positive indications, e.g. numbers ticked or underlined.
21	4	1m	<b>Do not</b> accept 240 (minutes).
22	Award <b>TWO</b> marks for the correct answer of 40p OR £0.40.  If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method.	Up to 2m	Accept for <b>ONE</b> mark an answer of £40 <b>OR</b> £40p <b>OR</b> 0.40p as evidence of an appropriate method.  Answer need not be obtained for the award of <b>ONE</b> mark.
23	Award <b>TWO</b> marks for numbers in order as shown:  <div style="display: flex; align-items: center; justify-content: center; gap: 10px;"> <span><b>37</b></span> <span>54</span> <span>71</span> <span><b>88</b></span> <span>105</span> <span><b>122</b></span> <span>139</span> </div> If the answer is incorrect, award <b>ONE</b> mark for two numbers correct.	Up to 2m	
24	35 x 8 <b>OR</b> 38 x 5	1m	



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