

Paper 1: Arithmetic

1	697	1
2	6,594	1
3	2,808	1
4	8,413	1
5	240	1
6	960	1
7	14.753	1
8	2,754	1
9	50	1
10	520	1
11	400	1
12	6	1
13	900	1
14	$\frac{10}{63}$	1
15	83	1
16	$\frac{13}{16}$	1
17	0.03	1
18	$\frac{17}{18}$	1
19	13.375	1
20	37,592	2
21	$\frac{1}{24}$	1
22	2 (equiv. fractions, but not $1\frac{2}{7}$)	1
23	78	1
24	38.4	1
25	13	2
26	1,149 r1/ 1,149.2/ 1,149 $\frac{1}{5}$ NOT 1,149 r $\frac{1}{5}$	1
27	364 (not 364%)	1
28	$\frac{1}{18}$	1
29	224,761	2
30	171 (not 171%)	1
31	14.8	1
32	$\frac{3}{10}$ (or 0.3 not 30%)	1
33	172	2
34	$2\frac{1}{12}$ or $\frac{25}{5}$	1
35	285 (not 285%)	1
36	600 (don't accept $\frac{1800}{3}$)	2

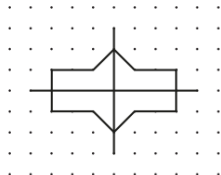
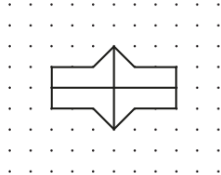
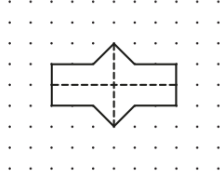
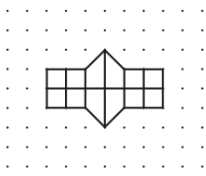
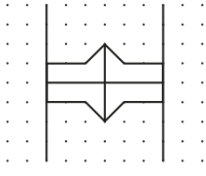
1		1
2	<input type="checkbox"/> -10°C <input type="checkbox"/> -4°C <input type="checkbox"/> 1°C <input type="checkbox"/> 3°C <input type="checkbox"/> 6°C	1
3	(6,2)	1
4	7	1
5	See guidance	1
6	£3.61	1
7	75 50 25 <input type="checkbox"/> 0 <input type="checkbox"/> -25 Don't accept 25-	1
8	24,400 (not 400)	1
9		1
10	216	1
11a	20,039	1
11b	18,939	1
12		1
13	110	1
14	In range of 128-132 inc.	1
15		1
16	5	1
17	33	2
18	$\frac{7}{20}$	2
19	200	1
20	$\begin{array}{r} 3235 \\ \times \quad 53 \\ \hline \end{array}$ One mark for one box correct.	2
21	$267.5 / 267\frac{1}{2}$	2
22	$\frac{3}{12}$ (or equiv. e.g. $\frac{1}{4}$)	1
23	19	2
24	564	1
25a	20	1
25b	4.8	2
26a	18	
26b	3	

1	<table><tr><td>2</td><td>4</td><td>7</td></tr></table>	2	4	7	1									
2	4	7												
2	<div>8,306 <input type="checkbox"/></div> <div>80,036 <input type="checkbox"/></div> <div>80,306 <input checked="" type="checkbox"/></div> <div>800,306 <input type="checkbox"/></div> <div>80,300,006 <input type="checkbox"/></div>	1												
3		1												
4	<div>1,780</div> <div>1,880</div> <div>1,980</div> <div>2,080</div> <div>2,180</div>	1												
5	<div>13.2</div> <div>14.7</div> <div>15.9</div> <div>16.3</div> <div>17.6</div>	1												
6	300,000	1												
7	$10\frac{1}{2}$ (or 10.5/10.50)	1												
8		1												
9	See guidance	1												
10	3 (accept 9 if exponent crossed out)	1												
11	2,458	2												
12		2												
13	9	1												
14a	$\frac{1}{4}$ (no equivalent fractions)	1												
14b	$\frac{2}{5}$ (no equivalent fractions)	1												
15a	5:50/ 05:50 pm or 17:50	1												
15b	1 hr 45 m	1												
16	35	2												
17	$\frac{5}{6}$	1												
18a	Range between 650-750.	1												
18b	1,543	2												
19	£2.65	2												
20	<div><div>$w \times 6$</div><div>$w \times 2 + 12$</div><div>$2 \times (w \times 6)$</div><div>$6 \times w + 6 \times w$</div></div>	2												
21	323	3												
22	octagon <div>8</div> <div>$\times 5$</div> <div>$+2$</div> <div>20</div>	1												
23	<table><tr><th>a</th><th>b</th><th>$\frac{a}{b}$</th></tr><tr><td>1</td><td>4</td><td>0.25</td></tr><tr><td>3</td><td>20</td><td>0.15</td></tr><tr><td>5</td><td>8</td><td>0.625</td></tr></table> <div>One mark for one box correct.</div>	a	b	$\frac{a}{b}$	1	4	0.25	3	20	0.15	5	8	0.625	2
a	b	$\frac{a}{b}$												
1	4	0.25												
3	20	0.15												
5	8	0.625												

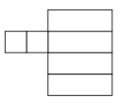



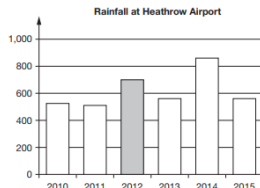

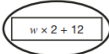
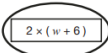
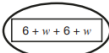
Paper 1: Arithmetic (guidance on highlighted questions)

20	<p>Award TWO marks for the correct answer of 37,592</p> <p>If the answer is incorrect, award ONE mark for the formal method of long multiplication with no more than ONE arithmetic error, e.g.</p> <div><div><div>•</div><div><div>508</div><div>×</div><div>74</div><div>2032</div><div>35560</div><div>37582 (error)</div></div></div><div>OR</div><div><div>•</div><div><div>508</div><div>×</div><div>74</div><div>2032</div><div>35060 (error)</div><div>37092</div></div></div></div> <p>Up to 2m</p> <p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Do not award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens.</p> <div><div>508</div><div>×</div><div>74</div><div>2032</div><div>3556 (place value error)</div><div>5588</div></div>
25	<p>Award TWO marks for the correct answer of 13</p> <p>If the answer is incorrect, award ONE mark for the formal methods of division with no more than ONE arithmetic error, i.e.</p> <div><div>•</div><div>long division algorithm, e.g.</div><div><div>15 r25</div><div>47</div><div>611</div><div>– 470</div><div>260 (error)</div><div>– 235</div><div>25</div></div></div> <p>OR</p> <div><div>18 (error)</div><div>47</div><div>611</div><div>– 470</div><div>141</div><div>– 141</div><div>0</div><div>10 × 47</div><div>3 × 47</div></div> <div><div>•</div><div>short division algorithm, e.g.</div><div><div>1 5 r6 (error)</div><div>47</div><div>61241</div></div></div> <p>Up to 2m</p> <p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.</p>
29	<p>Award TWO marks for the correct answer of 224,761</p> <p>If the answer is incorrect, award ONE mark for the formal method of long multiplication with no more than ONE arithmetic error, e.g.</p> <div><div>•</div><div><div>5227</div><div>×</div><div>43</div><div>15681</div><div>209080</div><div>214761 (error)</div></div></div> <p>OR</p> <div><div>•</div><div><div>5227</div><div>×</div><div>43</div><div>10681 (error)</div><div>209080</div><div>219761</div></div></div> <p>Up to 2m</p> <p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Do not award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens:</p> <div><div>5227</div><div>×</div><div>43</div><div>15681</div><div>20908 (place value error)</div><div>36589</div></div>
33	<p>Award TWO marks for the correct answer of 172</p> <p>If the answer is incorrect, award ONE mark for the formal methods of division with no more than ONE arithmetic error, i.e.</p> <div><div>•</div><div>long division algorithm, e.g.</div><div><div>172 r10</div><div>26</div><div>4472</div><div>– 2600</div><div>1872</div><div>– 1820</div><div>52</div><div>– 42 (error)</div><div>10</div></div></div> <p>OR</p> <div><div>162 (error)</div><div>26</div><div>4472</div><div>– 2600</div><div>1872</div><div>– 1820</div><div>52</div><div>52</div><div>100 × 26</div><div>70 × 26</div><div>2 × 26</div></div> <div><div>•</div><div>short division algorithm, e.g.</div><div><div>1 7 3 (error)</div><div>26</div><div>441872</div></div></div> <p>Up to 2m</p> <p>Working must be carried through to reach a final answer for the award of ONE mark.</p> <p>Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figures must be less than the divisor.</p>

Paper 2: Reasoning (guidance on highlighted questions)

2	Award ONE mark for the correct order as shown: <div><div>-10°C</div><div>-4°C</div><div>1°C</div><div>3°C</div><div>6°C</div></div> Lowest	1m	Misreads and transcription errors are not allowed. Accept temperatures in reverse order AND the label lowest changed to follow suit.	17	Award TWO marks for the correct answer of 33 If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. <ul style="list-style-type: none">4 × 50 = 200 200 ÷ 6 = 30 (error) OR <ul style="list-style-type: none">50 ÷ 6 = 8 r2 (8 r2) × 4 = 32 r8 OR Award ONE mark for sight of: <ul style="list-style-type: none">33 $\frac{1}{3}$ OR 33.3 OR 33.3r OR 33.3 OR 33r2 (as evidence of completing 200 ÷ 6 correctly without interpreting the remainder in context)	Up to 2m	Answer need not be obtained for the award of ONE mark. If the pupil reaches an answer with a remainder and subsequently rounds to the nearest integer value either side, then the method remains appropriate for the award of ONE mark, e.g. <ul style="list-style-type: none">200 ÷ 6 = 31 r8 Acceptable rounded answers would be 31 OR 32 For the 'sight of' mark, accept equivalent fractions. Award ONE mark for an answer of 34.
5	Award ONE mark for a correct explanation that demonstrates why Stefan's total number of wheels is incorrect, e.g. Uses 5 cars and 3 motorbikes to show that the total number of wheels cannot be 28 because there are 26 wheels, e.g. <ul style="list-style-type: none">5 × 4 = 20 3 × 2 = 6 20 + 6 = 26 (not 28) <ul style="list-style-type: none">20 and 6 - he is wrong because you need an extra pair of wheels. <ul style="list-style-type: none">because on 5 cars there are 20 wheels but on 3 motorbikes there are 6 wheels so he would need another motorbike to have 28 wheels. <ul style="list-style-type: none">26 (not 28) OR Uses 3 motorbikes and the total of 28 wheels to show that the number of cars cannot be 5, e.g. <ul style="list-style-type: none">3 motorbikes would have 6 wheels which leaves 22 wheels for the cars. But 22 divided by 4 is five and a half cars, so that can't be possible. OR Uses 5 cars and the total number of 28 wheels to show that the number of motorbikes cannot be 3, e.g. <ul style="list-style-type: none">There are 5 cars with 20 wheels. And there must be 4 motorbikes for him to have 28 wheels, so Stefan is wrong. OR Demonstrates that Stefan would have either two extra wheels or an extra motorbike, e.g. <ul style="list-style-type: none">He is wrong because he has counted 2 more wheels.	1m	Do not accept vague or incomplete explanations, e.g. <ul style="list-style-type: none">20 and 6because 3 motorbikes is 6 wheels.he is two off the answer. Do not accept responses that restate the question e.g. 3 motorbikes and 5 cars does not equal 28 Do not accept explanations which include incorrect mathematics or incorrect information relevant to the explanation.	18	Award TWO marks for the correct answer of $\frac{7}{20}$ If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. <ul style="list-style-type: none">$\frac{3}{5} \times \frac{4}{20} = \frac{12}{20}$ $\frac{1}{20} + \frac{12}{20} = \frac{13}{20}$ $1 - \frac{13}{20}$$\frac{1}{20} + \frac{3}{5} = \frac{13}{20}$ $1 - \frac{13}{20}$ OR <ul style="list-style-type: none">Award ONE mark for sight of $\frac{13}{20}$ (as evidence of correctly totalling price A and price B tickets).	Up to 2m	Accept for TWO marks for an equivalent fraction of $\frac{7}{20}$ e.g. $\frac{35}{100}$ Answer need not be obtained for the award of ONE mark. Also accept for ONE mark equivalent fractions for $\frac{13}{20}$ e.g. $\frac{65}{100}$
12	Both lines of symmetry drawn correctly, as shown:  OR  OR 	1m	Accept slight inaccuracies in drawing lines provided the intention is clear. Within the shape, both lines of symmetry must be within 2mm of the correct end points for the award of a mark. (See page 13 for guidance.) Do not award the mark if additional lines are given, e.g.  OR 	21	Award TWO marks for 267.5 OR $267\frac{1}{2}$ (cm) If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. <ul style="list-style-type: none">30 × 8 = 240 (error) 2.5 × 11 = 27.5 240 + 27.5 OR <ul style="list-style-type: none">30 ÷ 2.5 = 12 8 × 12 + 11 = 106 (error) 106 × 2.5 OR <ul style="list-style-type: none">12 inches = 1 ft 1 ft + 8 ft = 9 ft 30 × 9 = 270 270 - 2.5	Up to 2m	Answer need not be obtained for the award of ONE mark. If a pupil's method uses repeated addition or subtraction appropriately, only one step error is allowed, otherwise the method is not appropriate. If the pupil reaches an answer with a remainder and subsequently rounds to the nearest integer value either side, then the method remains appropriate for the award of ONE mark, e.g. $780 \div 40 = 14 \text{ r}2$ (error) Acceptable rounded answers would be 14 OR 15 Award ONE mark for an answer of 20.
23	Award TWO marks for the correct answer of 19 If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. <ul style="list-style-type: none">650 ÷ 10 = 65 65 × 2 = 130 650 + 130 = 780 780 ÷ 40 <ul style="list-style-type: none">20% of 650 = 130 130 + 650 = 770 (error) 770 ÷ 40 OR Award ONE mark for sight of: <ul style="list-style-type: none">19.5 OR $19\frac{1}{2}$ OR 19 r20 OR 19 r2 (as evidence of a complete method before rounding down)	Up to 2m	Answer need not be obtained for the award of ONE mark. If a pupil's method uses repeated addition or subtraction appropriately, only one step error is allowed, otherwise the method is not appropriate. If the pupil reaches an answer with a remainder and subsequently rounds to the nearest integer value either side, then the method remains appropriate for the award of ONE mark, e.g. $780 \div 40 = 14 \text{ r}2$ (error) Acceptable rounded answers would be 14 OR 15 Award ONE mark for an answer of 20.				
25b	Award TWO marks for the correct answer of 4.8 (g) If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g. <ul style="list-style-type: none">2.4 × 1000 = 240 (error) 240 ÷ 500 <ul style="list-style-type: none">2.4 ÷ 500 = 0.0048 0.0048 × 1000	Up to 2m	Accept for TWO marks 0.0048 kg for final answer in working and the answer box blank OR 0.0048 in answer box where the grams has been replaced with kilograms (kg). Accept for ONE mark 0.0048g in the answer box OR as the final answer in the working and answer box blank. Answer need not be obtained for award of ONE mark.				

Paper 3: Reasoning (guidance on highlighted questions)

<p>9 Award ONE mark for an explanation that recognises that 32 is not a multiple of 3, e.g.</p> <ul style="list-style-type: none"> 32 is not in the 3x table $32 \div 3 = 10 \text{ r } 2$ or 10.66 (which are not whole numbers) if you count in multiples of 3 from 0, you won't get 32 $3 + 2 = 5$, 5 is not a multiple of 3 so he is wrong. <p>OR</p> <p>For a description that includes one or both of the multiples of 3 either side of 32, e.g.</p> <ul style="list-style-type: none"> if you do $10 \times 3 = 30$ and $11 \times 3 = 33$ there is no 32 $10 \times 3 = 30$ and 32 is 2 away. 	<p>1m</p>	<p>Do not accept responses that restate the question, e.g. Jack is not correct because if you multiply 3 by any whole number you will not get 32.</p> <p>Do not accept vague or incomplete explanations, e.g.</p> <ul style="list-style-type: none"> If you multiply by 3 you will get 30, not 32 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33 32 is not a factor of 3 <p>Do not accept explanations which include incorrect mathematics or incorrect information relevant to the explanation.</p>
<p>11 Award TWO marks for correct answer of 2,458</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> $7,918 + 4,624 = 12,542$ $15,000 - 12,542$ <p>OR</p> <ul style="list-style-type: none"> $15,000 - 7,918 = 7,182$ (error) $7,182 - 4,624$ <p>OR</p> <ul style="list-style-type: none"> $15,000 - 4,624 = 10,376$ $10,376 - 7,918 = 2,558$ (error) 	<p>Up to 2m</p>	<p>Answer need not be obtained for the award of ONE mark.</p>
<p>12 Award TWO marks for two boxes correctly ticked, and no incorrect boxes ticked, as shown:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <input type="checkbox"/> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <input checked="" type="checkbox"/> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <input type="checkbox"/> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <input checked="" type="checkbox"/> </div> </div> <p>If the answer is incorrect, award ONE mark for:</p> <ul style="list-style-type: none"> two boxes ticked correctly and one incorrect box ticked. <p>OR</p> <ul style="list-style-type: none"> only one box ticked correctly and no incorrect boxes ticked. 	<p>Up to 2m</p>	<p>Accept alternative unambiguous positive indication of the correct answer.</p>
<p>15a Award ONE mark for:</p> <ul style="list-style-type: none"> 5:50, (0)5:50 pm OR 17:50 	<p>1m</p>	<p>Accept answer in words, e.g. ten to six</p> <p>OR</p> <p>Answer written unconventionally, e.g. 10 to 6</p> <p>Refer to section 6.2 on pages 15 and 16 for additional guidance on marking answers involving a time.</p>
<p>15b Award ONE mark for:</p> <ul style="list-style-type: none"> 1 (hours) 45 (minutes) 	<p>1m</p>	<p>Award the mark if the answer is given in hours only or minutes only, i.e.</p> <ul style="list-style-type: none"> 1.75 (hours) Blank (minutes) <p>OR</p> <ul style="list-style-type: none"> Blank (hours) 105 (minutes)
<p>16 Award TWO marks for correct answer of 35(g)</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> $870 - 30 = 840$ $840 \div 24$ <p>OR</p> <ul style="list-style-type: none"> $870 - 30 = 850$ (error) $850 \div 24 = 35 \text{ r } 10$ 	<p>Up to 2m</p>	<p>Answer need not be obtained for the award of ONE mark.</p> <p>If the pupil reaches an answer with a remainder and subsequently rounds to the nearest integer value either side, then the method remains appropriate for the award of ONE mark, e.g.</p> <p>$840 \div 24 = 36 \text{ r } 10$</p> <p>Acceptable rounded answers would be 36 OR 37</p>
<p>17 $\frac{5}{6}$</p>	<p>1m</p>	<p>Accept equivalent fractions, e.g. $\frac{10}{12}$</p>
<p>18a Award ONE mark for drawing the bar in the range of 650mm to 750mm, e.g.</p> <div style="text-align: center;">  </div>	<p>1m</p>	<p>Ignore the width of the bar.</p>
<p>18b Award TWO marks for the correct answer of 1,543</p> <p>If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> $1,452 + 1,669 + 1,508 = 4,629$ $4,629 \div 3$ <p>OR</p> <ul style="list-style-type: none"> $1,452 + 1,669 + 1,508 = 4619$ (error) $4619 \div 3$ <p>OR</p> <p>Award ONE mark for sight of 4629 (as</p>	<p>Up to 2m</p>	<p>Answer need not be obtained or rounded for the award of ONE mark.</p> <p>Any acceptable rounding or truncating does not negate an appropriate method. Any value which does not result from correct rounding or truncating implies an additional step not shown.</p>
<p>19 Award TWO marks for the correct answer of (£)2.65</p> <p>If the answer is incorrect, award ONE mark for evidence of a complete method which contains no more than one arithmetic error, e.g.</p> <ul style="list-style-type: none"> $\pounds 3.20 \div 2 = \pounds 1.60$ $\frac{1}{4}$ of 60p = 15p $60p + 15p = 75p$ $\pounds 1.60 + 75p = \pounds 2.25$ (error) $\pounds 5 - \pounds 2.25 = \pounds 2.75$ <p>OR</p> <ul style="list-style-type: none"> sight of (£)2.35 OR 235 (p) (as evidence of the total cost of mushrooms and carrots). 	<p>Up to 2m</p>	<p>Misreads are not allowed.</p> <p>Accept for ONE mark an answer of £265, £265p or £2.65 as evidence of an appropriate method.</p> <p>Refer to section 6.1 on pages 14 and 15 for additional guidance on marking answers involving money.</p>
<p>20 Award TWO marks for the three correct expressions circled, as shown:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>Award ONE mark for two correct expressions</p>	<p>Up to 2m</p>	<p>Accept alternative unambiguous positive indication of the correct answers.</p>
<p>21 Award THREE marks for the correct answer of 323</p> <p>Award TWO marks for:</p> <ul style="list-style-type: none"> An incorrect answer with evidence of an appropriate complete method with no more than one arithmetic error, e.g. <div style="text-align: center;"> $\begin{array}{r} 25 \\ \times 34 \\ \hline 100 \\ 750 \\ \hline 950 \end{array}$ <p>(error)</p> <p>62% of 950 = 589 $950 - 589 = 361$</p> </div> <p>OR</p> <ul style="list-style-type: none"> $34 \times 25 = 950$ (error) $95 \times 3 = 285$ $9.5 \times 8 = 76$ $285 + 76 = 361$ <p>OR</p> <ul style="list-style-type: none"> sight of 527 (as evidence of calculating 62% of 850) <p>Award ONE mark for:</p> <ul style="list-style-type: none"> evidence of an appropriate method with more than one error. <p>OR</p> <ul style="list-style-type: none"> sight of 850 (as evidence of the multiplication step completed correctly) 	<p>Up to 3m</p>	<p>A misread of a number may affect the award of marks. No marks are awarded if there is more than one misread or if the mathematics is simplified.</p> <p>TWO marks will be awarded if an appropriate method with the misread number is followed through correctly.</p> <p>ONE mark will be awarded for evidence of an appropriate method with the misread number followed through correctly with no more than one error.</p> <p>Within an appropriate method, if the pupil has rounded appropriately with no more than one arithmetic error, the pupil may be awarded TWO marks.</p> <p>Answer need not be obtained for the award of ONE mark.</p>