

## 7. Mark schemes for Paper 1: arithmetic

Qu.	Requirement	Mark	Additional guidance
1	727	1m	
2	24	1m	
3	138	1m	
4	4,513	1m	
5	1,173	1m	
6	8,641	1m	
7	1,100	1m	
8	990	1m	
9	21.173	1m	
10	6,768	1m	
11	80	1m	
12	268	1m	
13	187	1m	
14	$\frac{4}{48}$	1m	Accept equivalent fractions or the <b>exact</b> decimal equivalent, e.g. $\frac{1}{12}$ or $0.08\bar{3}$ (accept any unambiguous indication of the recurring digits).  <b>Do not</b> accept rounded or truncated decimals.
15	90	1m	
16	20,000	1m	
17	2,671,000	1m	
18	$\frac{9}{12}$	1m	Accept equivalent fractions or the <b>exact</b> decimal equivalent, e.g. $\frac{3}{4}$ or 0.75  <b>Do not</b> accept rounded or truncated decimals.

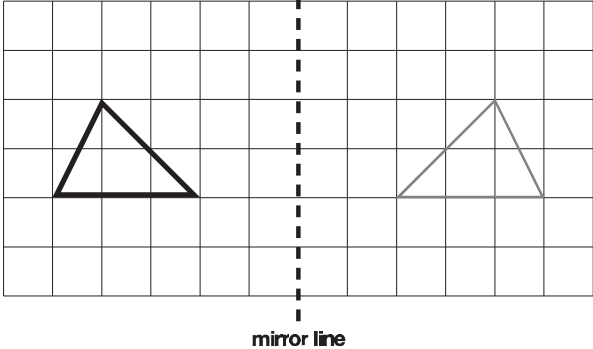
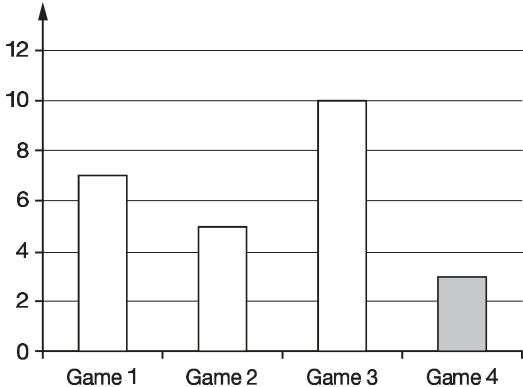
Qu.	Requirement	Mark	Additional guidance
19	$1\frac{7}{15}$  <b>OR</b>  $\frac{22}{15}$	1m	Accept equivalent mixed numbers, fractions or the <b>exact</b> decimal equivalent, i.e. 1.46 (accept any unambiguous indication of the recurring digits).  <b>Do not</b> accept rounded or truncated decimals.
20	Award <b>TWO</b> marks for the correct answer of 88,368  If the answer is incorrect, award <b>ONE</b> mark for the formal method of long multiplication with no more than <b>ONE</b> arithmetic error, e.g.  • $\begin{array}{r} 6312 \\ \times \quad 14 \\ \hline 25248 \\ 63120 \\ \hline 88358 \end{array} \text{ (error)}$  <b>OR</b>  • $\begin{array}{r} 6312 \\ \times \quad 14 \\ \hline 24248 \text{ (error)} \\ 63120 \\ \hline 87368 \end{array}$	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.  $\begin{array}{r} 6312 \\ \times \quad 14 \\ \hline 25248 \\ 6312 \text{ (place value error)} \\ \hline 31560 \end{array}$
21	29	1m	
22	0.155	1m	
23	83	1m	
24	57.2	1m	

Qu.	Requirement	Mark	Additional guidance
25	<p>Award <b>TWO</b> marks for the correct answer of 19,646</p> <p>If the answer is incorrect, award <b>ONE</b> mark for the formal method of long multiplication with no more than <b>ONE</b> arithmetic error, e.g.</p> <ul style="list-style-type: none"> <li> <math display="block">\begin{array}{r} 418 \\ \times 47 \\ \hline 2926 \\ 16720 \\ \hline 19640 \text{ (error)} \end{array}</math> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li> <math display="block">\begin{array}{r} 418 \\ \times 47 \\ \hline 2924 \text{ (error)} \\ 16720 \\ \hline 19644 \end{array}</math> </li> </ul>	Up to 2m	<p>Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.</p> <p><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.</p> $\begin{array}{r} 418 \\ \times 47 \\ \hline 2926 \\ 1672 \text{ (place value error)} \\ \hline 4598 \end{array}$
26	$\frac{7}{21}$	1m	<p>Accept equivalent fractions or the <b>exact</b> decimal equivalent, e.g. <math>\frac{1}{3}</math> or 0.3<math>\bar{3}</math> (accept any unambiguous indication of the recurring digits).</p> <p><b>Do not</b> accept rounded or truncated decimals.</p>
27	$\frac{7}{20}$	1m	<p>Accept equivalent fractions or the <b>exact</b> decimal equivalent, i.e. 0.35</p> <p><b>Do not</b> accept rounded or truncated decimals.</p>
28	$1\frac{3}{4}$  <b>OR</b>  $\frac{7}{4}$	1m	<p>Accept equivalent mixed numbers, fractions or the <b>exact</b> decimal equivalent, i.e. 1.75</p> <p><b>Do not</b> accept rounded or truncated decimals.</p>

Qu.	Requirement	Mark	Additional guidance
29	18.2	1m	
30	<p>Award <b>TWO</b> marks for a correct answer of 29</p> <p>If the answer is incorrect, award <b>ONE</b> mark for the formal methods of division with no more than <b>ONE</b> arithmetic error, e.g.</p> <ul style="list-style-type: none"> <li>long division algorithm, e.g.</li> </ul> $\begin{array}{r} 29 \text{ r } 6 \\ 34 \overline{) 986} \\ \underline{- 680} \\ 306 \\ \underline{- 300} \text{ (error)} \\ 6 \end{array}$ <p>OR</p> $\begin{array}{r} 28 \text{ (error)} \\ 34 \overline{) 986} \\ \underline{- 680} \\ 306 \\ \underline{- 306} \\ 0 \end{array} \quad \begin{array}{l} 20 \times 34 \\ 9 \times 34 \end{array}$ <ul style="list-style-type: none"> <li>short division algorithm, e.g.</li> </ul> $\begin{array}{r} 28 \text{ (error)} \\ 34 \overline{) 98} \overset{30}{6} \end{array}$	Up to 2m	<p>Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.</p> <p>Short division methods <b>must</b> be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm and be a complete method.</p> <p>The carrying figure must be less than the divisor.</p>
31	594	1m	Do not accept 594%
32	$\frac{1}{6}$	1m	<p>Accept equivalent fractions or the <b>exact</b> decimal equivalent, i.e. 0.16 (accept any unambiguous indication of the recurring digits).</p> <p><b>Do not</b> accept rounded or truncated decimals.</p>
33	387	1m	Do not accept 387%

Qu.	Requirement	Mark	Additional guidance
34	$1\frac{1}{2}$ OR $\frac{3}{2}$	1m	Accept equivalent mixed numbers, fractions or the <b>exact</b> decimal equivalent, i.e. 1.5  <b>Do not</b> accept rounded or truncated decimals.
35	$48\frac{3}{4}$ OR $\frac{195}{4}$	1m	Accept equivalent mixed numbers, fractions or the <b>exact</b> decimal equivalent, i.e. 48.75  <b>Do not</b> accept rounded or truncated decimals.
36	<p>Award <b>TWO</b> marks for a correct answer of 58</p> <p>If the answer is incorrect, award <b>ONE</b> mark for the formal methods of division with no more than <b>ONE</b> arithmetic error, e.g.</p> <ul style="list-style-type: none"> <li>long division algorithm, e.g.</li> </ul> $ \begin{array}{r} 58 \text{ r}2 \\ 73 \overline{) 4234} \\ \underline{- 3650} \phantom{0} \\ 584 \\ \underline{- 582 \text{ (error)}} \\ 2 \end{array} $ <p>OR</p> $ \begin{array}{r} 56 \text{ (error)} \\ 73 \overline{) 4234} \\ \underline{- 3650} \phantom{0} \quad 50 \times 73 \\ 584 \\ \underline{- 584} \quad 8 \times 73 \\ 0 \end{array} $ <ul style="list-style-type: none"> <li>short division algorithm, e.g.</li> </ul> $ \begin{array}{r} 5 \phantom{0} 6 \text{ (error)} \\ 73 \overline{) 423} 584 \end{array} $	Up to 2m	<p>Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.</p> <p>Short division methods <b>must</b> be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm and be a complete method.</p> <p>The carrying figure must be less than the divisor.</p>

## 8. Mark schemes for Paper 2: reasoning

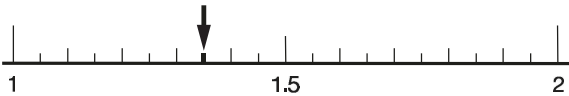
Qu.	Requirement	Mark	Additional guidance
1	<p>Diagram completed, as shown:</p>  <p style="text-align: center;">mirror line</p>	1m	<p>Accept slight inaccuracies in drawing, provided the intention is clear.</p> <p>See page 13 for guidance.</p>
2	<p>Award <b>ONE</b> mark for two boxes ticked correctly, as shown:</p> <p>banana <input checked="" type="checkbox"/></p> <p>plum <input type="checkbox"/></p> <p>apple <input type="checkbox"/></p> <p>pear <input checked="" type="checkbox"/></p>	1m	<p>Accept alternative unambiguous positive indication of the correct answer.</p>
3	<p>Award <b>ONE</b> mark for drawing the bar in the range 2.5 – 3.5 points, e.g.</p> 	1m	<p>Ignore the width of the bar.</p>

Qu.	Requirement	Mark	Additional guidance
4	<p>Award <b>ONE</b> mark for the correct order, as shown:</p> <div> <div>-11</div> <div>-5</div> <div>1</div> <div>7</div> <div>13</div> <div>19</div> </div>	1m	Do not accept 5–
5	<p>Award <b>ONE</b> mark for all three boxes completed correctly, as shown:</p> <div> <div>2</div> 5 <div>4</div>  ×            3  <hr/> 7 <div>6</div> 2 </div>	1m	
6	238	1m	
7	1,000	1m	
8	<p>Award <b>ONE</b> mark for a correct number in each box:</p> <div>Any whole number in the range 3,500 – 4,499 inclusive.</div> <div>Any whole number in the range 815,000 – 824,999 inclusive.</div>	1m	Both numbers must be correct for the award of the mark.
9	0.4	1m	
10	<p>Award <b>ONE</b> mark for the correct numbers circled, as shown:</p> <div>15   <div>17</div>   <div>19</div>   21   23   25</div>	1m	Accept alternative unambiguous positive indication of the correct answer.

Qu.	Requirement	Mark	Additional guidance																
11	Both boxes completed correctly, as shown: <div> <table> <tr> <th>Age in years</th><th>Number of children</th><th>Number of adults</th><th>Number of children per adult</th></tr> <tr> <td>1 and under</td><td>12</td><td>4</td><td>3</td></tr> <tr> <td>2 or 3</td><td>20</td><td>5</td><td>4</td></tr> <tr> <td>4 or 5</td><td>24</td><td>3</td><td>8</td></tr> </table> </div>	Age in years	Number of children	Number of adults	Number of children per adult	1 and under	12	4	3	2 or 3	20	5	4	4 or 5	24	3	8	1m	
Age in years	Number of children	Number of adults	Number of children per adult																
1 and under	12	4	3																
2 or 3	20	5	4																
4 or 5	24	3	8																
12	Award <b>ONE</b> mark for all four labels matched correctly, as shown: <div> </div>	1m	Lines need not touch the labels or fractions, provided the intention is clear.  <b>Do not</b> accept any label matched to more than one fraction.																
13	Award <b>ONE</b> mark for all four shape names matched correctly, as shown: <div> </div>	1m	Lines need not touch the shape names or numbers, provided the intention is clear.  <b>Do not</b> accept a shape name matched to more than one number.																
14	28	1m																	
15	32.07	1m																	



Qu.	Requirement	Mark	Additional guidance
16	<p>Award <b>TWO</b> marks for two boxes ticked correctly, and no incorrect boxes ticked, as shown:</p> <p>The digit 5 represents 50,000 <input checked="" type="checkbox"/></p> <p>The value of the digit 9 is nine hundred thousands. <input type="checkbox"/></p> <p>The digit 6 represents 6 millions. <input type="checkbox"/></p> <p>The value of the digit 2 is twenty tens. <input checked="" type="checkbox"/></p> <p>If the answer is incorrect, award <b>ONE</b> mark for:</p> <ul style="list-style-type: none"> <li>two boxes ticked correctly and one incorrect box ticked</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>only one box ticked correctly and no incorrect boxes ticked.</li> </ul>	Up to 2m	Accept alternative unambiguous positive indication of the correct answer.
17	<p>Award <b>TWO</b> marks for the correct answer of (£)2.50</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate complete method which contains no more than <b>ONE</b> arithmetic error, e.g.</p> <ul style="list-style-type: none"> <li> <math>£1.50 + £0.70 + £1.45 = £3.65</math>  <math>£10.00 - £3.65 = £6.15</math> (error)  <math>£6.15 - £3.85 = £2.30</math> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li> <math>£1.50 + £0.70 + £1.45 + £3.85 = £7.50</math>  <math>£10.00 - £7.50 = £3.50</math> (error) </li> </ul> <p>If no final answer is given, all calculations within an appropriate method must be evaluated correctly for the award of <b>ONE</b> mark, e.g.</p> <ul style="list-style-type: none"> <li> <math>£1.50 + £0.70 + £1.45 = £3.65</math>  <math>£10.00 - £3.65 = £6.35</math>  <math>£6.35 - £3.85</math> </li> </ul>	Up to 2m	<p>Accept for <b>ONE</b> mark an answer of £250, £250p, £2,50 or £2.5 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>Misreads of £3.85 as £3.65 <b>OR</b> miscopies of £3.65 as £3.85 are not allowed.</p>

Qu.	Requirement	Mark	Additional guidance
18	<p>Award <b>ONE</b> mark for an arrow drawn to 1.35kg, as shown:</p> 	1m	Accept alternative unambiguous positive indication of the correct answer.
19	<p>Award <b>TWO</b> marks for the correct answer of 330</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li>• <math>1,250 - 40 = 1,210</math> <math>1,210 - 880</math></li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• <math>1,250 - 880 = 370</math> <math>370 - 40</math></li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• <math>880 + 40 = 920</math> <math>1,250 - 920</math></li> </ul>	Up to 2m	Answer need not be obtained for the award of <b>ONE</b> mark.

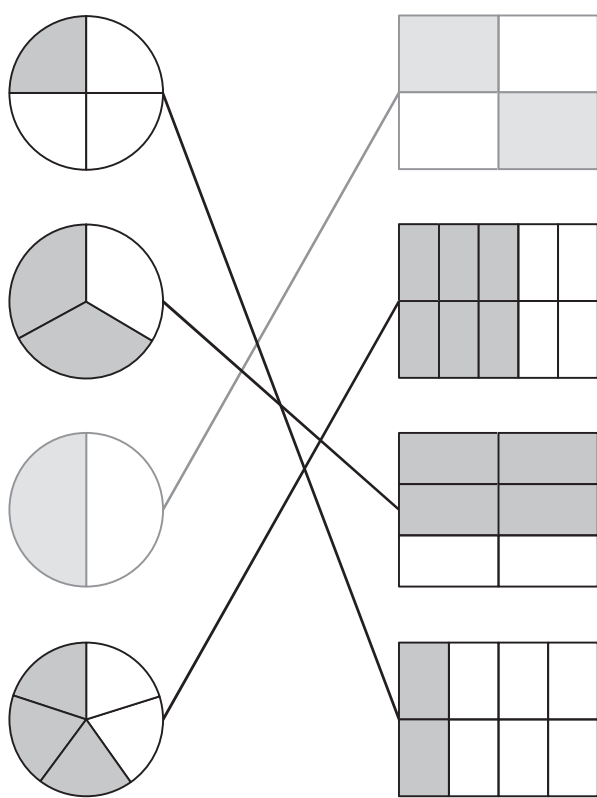
Qu.	Requirement	Mark	Additional guidance
20	<p>Award <b>TWO</b> marks for the correct answer of 5 (hours) 25 (minutes)</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li>10:15 to 10:30 = 15 mins 12:40 to 1:30 = 50 mins 15 + 50 = 65 mins 65 × 5 = 320 mins (<i>error</i>) 320 ÷ 60</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>10:15 to 10:30 = 15 mins 15 mins × 5 = 75 mins 12:40 to 1:30 = 50 mins 50 mins × 5 = 260 mins (<i>error</i>) 75 mins + 260 mins = 335 mins 335 ÷ 60 = 5 hrs 35 mins</li> </ul> <p>Award <b>ONE</b> mark for sight of:</p> <ul style="list-style-type: none"> <li>75 <b>AND</b> 250 (<i>as evidence of an appropriate method</i>)</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>325 (minutes)</li> </ul>	Up to 2m	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p> <p>Accept for <b>ONE</b> mark a correct answer given in hours <b>OR</b> minutes only, written either as a mixed number fraction or an exact decimal equivalent, e.g.</p> <ul style="list-style-type: none"> <li><math>5\frac{25}{60}</math> (hours) <i>blank</i> (minutes)</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>5.41<math>\dot{6}</math> (hours) <i>blank</i> (minutes)</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><i>blank</i> (hours) 325 (minutes)</li> </ul>
21	<p>Award <b>ONE</b> mark for two boxes ticked correctly, as shown:</p> <p>AB is parallel to CD <input type="checkbox"/></p> <p>GH is parallel to AB <input checked="" type="checkbox"/></p> <p>CD is perpendicular to GH <input checked="" type="checkbox"/></p> <p>EF is perpendicular to CD <input type="checkbox"/></p>	1m	Accept alternative unambiguous positive indication of the correct answer.

Qu.	Requirement	Mark	Additional guidance
22	<p>Award <b>TWO</b> marks for the correct answer of 2.7</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li><math>1.8 + 2.4 + 3.2 + 1.6 + 4.5 = 13.5</math> <math>13.5 \div 5</math></li> </ul>	Up to 2m	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p> <p>Any correct rounding or truncating of the answer does not negate an appropriate method.</p> <p>Any answer which does not result from correct rounding or truncating implies an additional step not shown.</p>
23	<p>Award <b>TWO</b> marks for the correct answer of <math>\frac{4}{12}</math></p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate complete method, e.g.</p> <ul style="list-style-type: none"> <li><math>940 \div 12 = 78 \text{ remainder } 5</math> (<i>error</i>) 5 out of 12 = <math>\frac{5}{12}</math></li> <li> <math display="block">\begin{array}{r} 78 \text{ r}2 \text{ (error)} \\ 12 \overline{) 940} \end{array}</math> <p>Final answer = <math>\frac{2}{12}</math></p> </li> </ul> <p>Award <b>ONE</b> mark for sight of:</p> <ul style="list-style-type: none"> <li>78 r4</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>78.33 <b>OR</b> 78.3</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li><math>0.\dot{3}\dot{3}</math> <b>OR</b> 0.33 <b>OR</b> <math>\frac{33}{100}</math></li> </ul>	Up to 2m	<p>Accept for <b>TWO</b> marks an exact equivalent fraction, e.g. <math>\frac{1}{3}</math></p>

Qu.	Requirement	Mark	Additional guidance																								
24	<p>Award <b>TWO</b> marks for all boxes completed correctly, as shown:</p> <table><tr><td>100</td><td>is a square number.</td></tr><tr><td>64</td><td>is a cube number.</td></tr><tr><td>60</td><td>is a common multiple of 4 and 5</td></tr><tr><td>40</td><td>is a common factor of 80 and 120</td></tr></table> <p>If the answer is incorrect, award <b>ONE</b> mark for any three correct statements, as long as each of the three correct statements has a different number, e.g.</p> <table><tr><td>64</td><td>is a square number.</td></tr><tr><td>100 (error)</td><td>is a cube number.</td></tr><tr><td>60</td><td>is a common multiple of 4 and 5</td></tr><tr><td>40</td><td>is a common factor of 80 and 120</td></tr></table> <p>OR</p> <table><tr><td>64</td><td>is a square number.</td></tr><tr><td>64 (repeat)</td><td>is a cube number.</td></tr><tr><td>100</td><td>is a common multiple of 4 and 5</td></tr><tr><td>40</td><td>is a common factor of 80 and 120</td></tr></table>	100	is a square number.	64	is a cube number.	60	is a common multiple of 4 and 5	40	is a common factor of 80 and 120	64	is a square number.	100 (error)	is a cube number.	60	is a common multiple of 4 and 5	40	is a common factor of 80 and 120	64	is a square number.	64 (repeat)	is a cube number.	100	is a common multiple of 4 and 5	40	is a common factor of 80 and 120	Up to 2m	<p><b>Do not</b> accept any numbers not given in the question.</p> <p><b>Do not</b> accept any statement where more than one number is given.</p>
100	is a square number.																										
64	is a cube number.																										
60	is a common multiple of 4 and 5																										
40	is a common factor of 80 and 120																										
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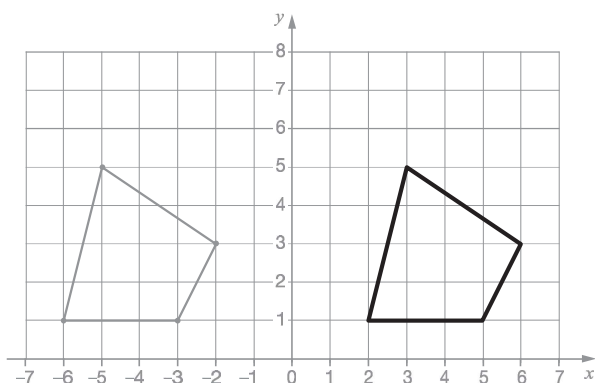
Qu.	Requirement	Mark	Additional guidance						
25	<p>Award <b>TWO</b> marks for both boxes completed correctly, as shown:</p> <table><tr><td><math>a</math></td><td><math>b</math></td></tr><tr><td>4</td><td>2</td></tr><tr><td>13</td><td>5</td></tr></table> <p>If the answer is incorrect, award <b>ONE</b> mark for:</p> <ul style="list-style-type: none"><li>one box completed correctly.</li></ul>	$a$	$b$	4	2	13	5	Up to 2m	
$a$	$b$								
4	2								
13	5								
26	<p>Award <b>ONE</b> mark for two boxes ticked correctly, as shown:</p> <p>from (0, 2) to (4, 2) <input type="checkbox"/></p> <p>from (6, 8) to (2, 8) <input checked="" type="checkbox"/></p> <p>from (−3, 5) to (−7, 5) <input checked="" type="checkbox"/></p>	1m	Accept alternative unambiguous positive indication of the correct answer.						
27	<p>Award <b>ONE</b> mark for an explanation that shows that the two quantities are equal, e.g.</p> <ul style="list-style-type: none"><li>If there are 100 beads in Jar A and 50 beads in Jar B, 25% of A is 25 which is the same as 50% of 50</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>50% is double 25% so 50% of a half is equal to 25% of a whole</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>A quarter equals half of a half.</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>Diagrams as part of an explanation if they show clearly that 50% of the half is equal to 25% of the whole, e.g.</li></ul> <div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div></div></div>	1m	<p><b>Do not</b> accept responses that restate the question, e.g.</p> <ul style="list-style-type: none"><li>Because Jar B is half the amount of Jar A.</li></ul> <p><b>Do not</b> accept vague or incomplete explanations, e.g.</p> <ul style="list-style-type: none"><li><math>25 + 25 = 50</math></li></ul> <p><b>Do not</b> accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation.</p> <p><b>Do not</b> accept diagrams alone where the widths are unequal.</p>						

## 9. Mark schemes for Paper 3: reasoning

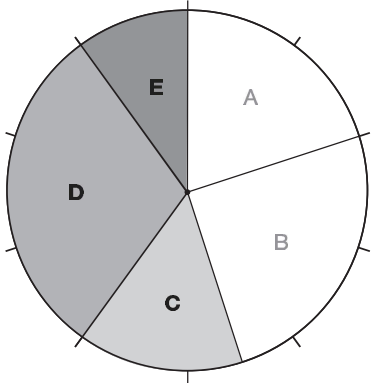
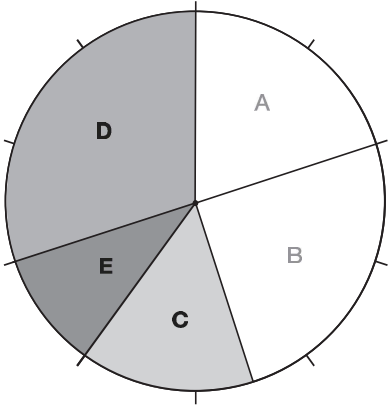
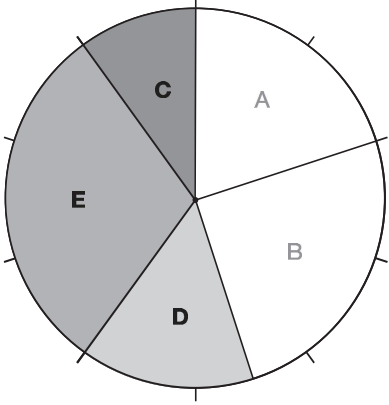
Qu.	Requirement	Mark	Additional guidance
1	<p>Award <b>ONE</b> mark for all three pairs of shaded fractions matched correctly, as shown:</p> 	1m	<p>Lines need not touch the shaded fractions, provided the intention is clear.</p> <p><b>Do not</b> accept a shaded circle matched to more than one shaded rectangle.</p>
2	-30	1m	<b>Do not</b> accept 30–
3	<p>Award <b>TWO</b> marks for the correct answer of (£)1.15</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li>£1.45 + £2.40 = £3.85</li> <li>£5.00 – £3.85</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>£5.00 – £1.45 = £3.55</li> <li>£3.55 – £2.40</li> </ul>	Up to 2m	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p> <p>Accept for <b>ONE</b> mark an answer of £115, £115p or £1,15 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>
4	3,500	1m	

Qu.	Requirement	Mark	Additional guidance
5	<p>Award <b>ONE</b> mark for all three Roman numerals matched correctly, as shown:</p> <div><div>CVI</div><div>DXC</div><div>DLXXI</div><div>MCX</div><div>1110</div><div>106</div><div>590</div><div>571</div></div>	1m	<p>Lines need not touch the Roman numerals or numbers, provided the intention is clear.</p> <p><b>Do not</b> accept a Roman numeral matched to more than one number.</p>
6	<p>Award <b>ONE</b> mark for all three fractions matched correctly, as shown:</p> <div><div><div>Fraction</div><div><div><math>\frac{12}{20}</math></div><div><math>\frac{12}{15}</math></div><div><math>\frac{12}{16}</math></div><div><math>\frac{12}{18}</math></div></div><div><div>Simplified fraction</div><div><div><math>\frac{4}{5}</math></div><div><math>\frac{2}{3}</math></div><div><math>\frac{3}{5}</math></div><div><math>\frac{3}{4}</math></div></div></div></div></div>	1m	<p>Lines need not touch the fractions, provided the intention is clear.</p> <p><b>Do not</b> accept a fraction matched to more than one simplified fraction.</p>
7	8	1m	



Qu.	Requirement	Mark	Additional guidance														
8	<p>Award <b>ONE</b> mark for the diagram completed, as shown:</p> 	1m	<p>Accept slight inaccuracies in drawing, provided the intention is clear.</p> <p>See page 13 for guidance.</p>														
9	<p>Award <b>ONE</b> mark for the table completed with the three correct answers, as shown:</p> <table><thead><tr><th>Number of weeks</th><th>Number of days</th></tr></thead><tbody><tr><td>1</td><td>7</td></tr><tr><td>2</td><td>14</td></tr><tr><td>4</td><td>28</td></tr><tr><td>6</td><td><b>42</b></td></tr><tr><td>10</td><td><b>70</b></td></tr><tr><td><b>15</b></td><td>105</td></tr></tbody></table>	Number of weeks	Number of days	1	7	2	14	4	28	6	<b>42</b>	10	<b>70</b>	<b>15</b>	105	1m	
Number of weeks	Number of days																
1	7																
2	14																
4	28																
6	<b>42</b>																
10	<b>70</b>																
<b>15</b>	105																
10a	<p>Award <b>ONE</b> mark for answers given in the range 202–218 (mm) inclusive.</p>	1m															
10b	<p>Award <b>ONE</b> mark for answers given in the range 53°– 57° inclusive.</p>	1m															

Qu.	Requirement	Mark	Additional guidance
11	<p>Award <b>TWO</b> marks for three boxes completed correctly, as shown:</p> $  \begin{array}{r}  5 \quad 7 \quad \boxed{3} \\  - \quad 3 \quad \boxed{0} \quad 5 \\  \hline  \boxed{2} \quad 6 \quad 8  \end{array}  $ <p>If the answer is incorrect, award <b>ONE</b> mark for any two boxes completed correctly.</p>	Up to 2m	
12	<p>Award <b>ONE</b> mark for the correct order, as shown:</p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"><math>\frac{1}{5}</math></div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"><math>\frac{3}{4}</math></div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"><math>\frac{8}{10}</math></div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"><math>\frac{7}{8}</math></div> </div> <p>least</p>	1m	<p>Accept equivalent fractions or exact equivalent decimals.</p> <p>Accept fractions in reverse order <b>AND</b> the label 'least' changed to follow suit.</p>
13	<p>Award <b>TWO</b> marks for the correct answer of 99(kg)</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li>• <math>8 \times 4 = 32</math></li> <li><math>2 \times 13 = 26</math></li> <li><math>4 \times 6.5 = 26</math></li> <li><math>6 \times 2.5 = 15</math></li> <li><math>32 + 26 + 26 + 15</math></li> </ul>	Up to 2m	<p>Accept for <b>TWO</b> marks, 99,000g as the final answer in working and the answer box blank <b>OR</b> 99,000 in the answer box where the kg has been replaced with grams (g).</p> <p>Accept for <b>ONE</b> mark 99,000 kilograms (kg) in the answer box <b>OR</b> as the final answer in working and the answer box blank.</p> <p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>

Qu.	Requirement	Mark	Additional guidance
14	<p>Award <b>TWO</b> marks for three sectors drawn <b>AND</b> labelled correctly, e.g.</p>  <p><b>OR</b></p>  <p>If the answer is incorrect, award <b>ONE</b> mark for one sector drawn <b>AND</b> labelled correctly.</p> <p><b>OR</b></p> <p>Three sectors drawn correctly but either unlabelled <b>OR</b> labelled incorrectly, e.g.</p> 	<b>Up to 2m</b>	<p>Accept slight inaccuracies in the drawing of the sectors as long as the intention is clear.</p> <p>Accept sectors C, D and E drawn in any order as long as each sector is drawn correctly.</p>

Qu.	Requirement	Mark	Additional guidance
15	<p>Award <b>TWO</b> marks for the correct answer of 79</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li> <math>680 \div 10 = 68</math>  <math>68 \times 3 = 204</math>  <math>68 \div 2 = 34</math>  <math>204 + 34 = 238</math>  <math>238 - 159</math> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li> <math>680 \div 100 \times 35 = 238</math>  <math>238 - 159</math> </li> </ul> <p>Award <b>ONE</b> mark for sight of 238 (as evidence of 35% of 680 calculated correctly)</p>	Up to 2m	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>
16	Award <b>ONE</b> mark for a whole number answer in the range 61–69 (inclusive).	1m	<b>Do not</b> accept answers with the % sign, e.g. 61%
17	<p>Award <b>ONE</b> mark for three boxes ticked correctly as shown:</p> <p>2 <input checked="" type="checkbox"/></p> <p>3 <input checked="" type="checkbox"/></p> <p>4 <input type="checkbox"/></p> <p>8 <input type="checkbox"/></p> <p>9 <input checked="" type="checkbox"/></p>	1m	Accept alternative unambiguous positive indication of the correct answer.
18	<p>Award <b>TWO</b> marks for the correct answer of 25</p> <p>If the answer is incorrect, award <b>ONE</b> mark for evidence of an appropriate method, e.g.</p> <ul style="list-style-type: none"> <li> <math>10 \times £2 = £20</math>  <math>£65 - £20 = £45</math>  <math>£45 \div £3 = 15 \text{ weeks}</math>  <math>15 + 10</math> </li> </ul>	Up to 2m	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p> <p>Award <b>ONE</b> mark for an answer of 15</p>

Qu.	Requirement	Mark	Additional guidance
19	<p>Award <b>TWO</b> marks for both boxes completed correctly, as shown:</p> <div style="text-align: center;"> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px;">3</div> <div style="display: inline-block; margin: 0 5px;">6</div> <div style="display: inline-block; margin: 0 5px;">4</div> <div style="display: inline-block; margin: 0 5px;">r1</div> </div> <div style="margin-top: 10px;"> <div style="display: inline-block; margin-right: 10px;">1   2</div> <div style="border-left: 1px solid black; border-bottom: 1px solid black; padding-left: 10px; position: relative;"> <div style="position: absolute; left: -10px; top: 50%; transform: translateY(-50%); border-left: 1px solid black; height: 20px;"></div> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px;">9</div> </div> </div> <p>Award <b>ONE</b> mark for one box completed correctly.</p>	Up to 2m	
20	Award <b>ONE</b> mark for the correct answer of B, C AND D.	1m	<p>Accept correct letters in any order.</p> <p>Accept alternative unambiguous positive indication of the correct answer.</p>
21	<p>Award <b>THREE</b> marks for the correct answer of (£)4,655</p> <p>Award <b>TWO</b> marks for:</p> <ul style="list-style-type: none"> <li>an incorrect answer with evidence of an appropriate complete method with no more than one arithmetic error, e.g.  <math>635 \times £27 = £17,045</math> (error)  <math>£17,045 - £3,180 = £13,865</math>  <math>£13,865 \div 3 = £4,621.66</math> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>for sight of (£)13,965 (as evidence of two steps completed correctly)</li> </ul> <p>Award <b>ONE</b> mark for:</p> <ul style="list-style-type: none"> <li>evidence of an appropriate method with more than one error</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>sight of (£)17,145 (as evidence of the multiplication step completed correctly).</li> </ul>	Up to 3m	<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>Any appropriate rounding or truncating of the answer does not negate an appropriate method.</p> <p>Any answer which does not result from correct rounding or truncating implies an additional step not shown.</p> <p><b>TWO</b> marks will be awarded for an appropriate method with the misread number followed through correctly.</p> <p><b>ONE</b> mark will be awarded for evidence of an appropriate method using the misread number followed through correctly with no more than one error.</p> <p>Answer need not be obtained for the award of <b>ONE</b> mark.</p>
22a	40	1m	
22b	7	1m	

Qu.	Requirement	Mark	Additional guidance								
23	<p>Award <b>ONE</b> mark for the table completed with the three correct answers, as shown:</p> <table><tr><th>Name of 3-D shape</th><th>Number of faces</th></tr><tr><td>cube</td><td>6</td></tr><tr><td>pentagonal prism</td><td>7</td></tr><tr><td>triangular-based pyramid</td><td>4</td></tr></table>	Name of 3-D shape	Number of faces	cube	6	pentagonal prism	7	triangular-based pyramid	4	1m	
Name of 3-D shape	Number of faces										
cube	6										
pentagonal prism	7										
triangular-based pyramid	4										
24	<p>Award <b>ONE</b> mark for an explanation that compares the calculations or relative size of the fractions to indicate relative size of the products, e.g.</p> <p>• <math>\frac{1}{2} \times \frac{5}{6} = \frac{5}{12}</math> <math>\frac{5}{12} = \frac{10}{24}</math> <math>\frac{1}{3} \times \frac{7}{8} = \frac{7}{24}</math></p> <p><b>OR</b></p> <p>• <math>\frac{10}{24} &gt; \frac{7}{24}</math></p>	1m	<p><b>Do not</b> accept responses that restate the question.</p> <p><b>Do not</b> accept vague, incomplete or incorrect explanations, e.g.</p> <ul style="list-style-type: none"><li>the result is bigger because it's a half</li><li>shows the products without supporting calculations or further proof, e.g.</li></ul> <p><math>\frac{5}{12}</math> is bigger than <math>\frac{7}{24}</math></p> <p><b>Do not</b> accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation.</p>								