



---

# GCSE MARKING SCHEME

---

**AUTUMN 2024**

**GCSE  
MATHEMATICS – COMPONENT 1  
(FOUNDATION TIER)  
C300U10-1**

---

## About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.


This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

---

## EDUQAS GCSE MATHEMATICS

### AUTUMN 2024 MARK SCHEME

GCSE (9-1) Mathematics Component 1: Foundation Tier	Mark	Comment
1.(a) 147	B1	
1.(b) 96	B1	
1.(c) 2.5 or $2\frac{1}{2}$ or $\frac{5}{2}$	B2	B1 for sight of one of the following: <ul style="list-style-type: none"> <li>• <math>\frac{15}{6}</math></li> <li>• <math>0.5 \times 5</math></li> <li>• <math>5 \div 2</math></li> <li>• <math>15 \div 6</math></li> </ul>
1.(d) 17	B1	
	(5)	
2.(a) 4	B1	
2.(b) 8	B1	FT 'their key' $\times 2$
2.(c) 	B1	FT 'their key' wherever possible.
	(3)	
3. 0.7(0) $\frac{1}{4}$ $\frac{3}{100}$ 0.22	B3	B3 for all 4 correct.  B2 for 3 correct.  B1 for 1 or 2 correct.
	(3)	
4. (Time taken =) $20 \times 8 + 90$  250 (minutes)	M1  A1	May be seen as 2 hours 40 minutes + 90 minutes oe.  Accept an answer of 4 hours and 10 minutes provided not contradicted by the answer space.
	(2)	

5.(a) $\frac{1}{4}$	B1	
5.(b) 28(%)	B1	Mark final answer. B0 for a final answer of $\frac{28}{100}$ .
5.(c) $45 \div 9 \times 2$ oe  10	M1  A1	May be seen in stages. Allow M1 for $\frac{2}{9} = \frac{10}{45}$  A0 for a final answer of $\frac{10}{1}$ , $\frac{10}{45}$ or $\frac{90}{9}$ .  Award M0 A0 for a correct answer seen but then spoilt by adding it to, or subtracting it from, 45.
	(4)	

6.(a)(i) Parallel line through the point <i>C</i>	B1	$\pm 2^\circ$
6.(a)(ii) Perpendicular line through the point <i>D</i>	B1	$\pm 2^\circ$
6.(b) square-based pyramid	B1	Unambiguously indicated.
6.(c) Suitable explanation e.g. <ul style="list-style-type: none"> <li>• '(An angle of <math>190^\circ</math> is a) reflex angle'.</li> <li>• 'Obtuse angles are below <math>180^\circ</math> (and above <math>90^\circ</math>)'.</li> <li>• 'Obtuse angles can't be more than <math>180^\circ</math>'.</li> <li>• 'Angles between <math>90^\circ</math> and <math>180^\circ</math> are obtuse'</li> </ul>	E1	Do not accept <ul style="list-style-type: none"> <li>• 'it's too big'</li> <li>• 'obtuse angles are smaller'</li> <li>• 'obtuse angles cannot be <math>190^\circ</math>'</li> </ul> Allow <ul style="list-style-type: none"> <li>• 'angles <math>90^\circ - 180^\circ</math> are obtuse'</li> <li>• 'angles <math>91^\circ - 180^\circ</math> are obtuse'</li> <li>• 'angles <math>90^\circ - 179^\circ</math> are obtuse'</li> </ul> Do not ignore contradictory or incorrect comments e.g. <ul style="list-style-type: none"> <li>• 'obtuse angles are greater than <math>90^\circ</math>'</li> <li>• 'obtuse angles cannot be greater than <math>180^\circ</math>. This is an acute angle'.</li> </ul>
	(4)	
7.(a) Correct method to find the number of minutes e.g. <ul style="list-style-type: none"> <li>• <math>35 + 8</math></li> <li>• <math>5 + 30 + 8</math></li> <li>• <math>60 - 17</math></li> </ul> 43 (minutes)	M1  A1	
7.(b)  (Ashby to Elderville =) 58 (minutes)  $(5 \times 60 + 6) - 5 \times 58$ $(= 306 - 290)$ OR 5 hours 6 minutes - 4 hours 50 minutes  16 (minutes)	B1  M1  A1	May be implied by sight of 4 hours 50 minutes OR 290 minutes.  FT 'their 58 minutes'.  FT 'their 58 minutes' provided their answer is greater than 0.  If B1 M0 A0, award SC1 for a final answer of 74 (minutes).
	(5)	

<p>8. (Cost of one block of butter =) <math display="block">\frac{10 - 0.6(0) - 3 \times 1.5(0) - 1.4(0)}{2}</math></p> <p>(£)1.75 or 175p.</p>	<p>M3</p> <p>A1</p>	<p>Accept equivalent work in pence. May be seen in stages. M2 for one of the following:</p> <ul style="list-style-type: none"> <li><math>(10 - 3 \times 1.5(0) - 1.4(0)) \div 2</math> (=£)2.05 (60p omitted)</li> <li><math>10 - 0.6(0) - 3 \times 1.5(0) - 1.4(0)</math> (=£)3.50 (<math>\div 2</math> omitted)</li> <li><math>(10 - 0.6(0) - 1.5(0) - 1.4(0)) \div 2</math> (=£)3.25 (3 omitted)</li> <li><math>(10 - 0.6(0) - 3 \times 1.5(0)) \div 2</math> (=£)2.45 (1.40 omitted)</li> </ul> <p>M1 for two of the errors allowed above or for <math>(10 - 0.6(0) - 3 \times 1.5(0) - 1.4(0)) \div 2</math> with mixed units (unless corrected later).</p> <p>FT from M2 only. If units are given, they must correct.</p> <p>If no marks, award SC1 for sight of (cost of milk and bread = <math>3 \times 1.50 + 1.40 = \text{£}5.90</math>)</p>
(4)		
<p>9.(a) (Adrian's pay =) <math display="block">14 \times 22 + (14 \times 1.5) \times (28 - 22)</math> (= 308 + 21 × 6)</p> <p>(£)434</p>	<p>M3</p> <p>A1</p>	<p>M2 for (Overtime pay =) <math>(14 \times 1.5) \times (28 - 22)</math> (= £126)</p> <p>M1 for (Overtime rate =) <math>14 \times 1.5</math> (= £21)</p> <p>CAO</p> <p>If no marks award SC1 for sight of (£)308 (from <math>14 \times 22</math>) or (£)392 (from <math>14 \times 28</math>).</p>
<p>9.(b) (New normal rate of pay =) <math>330 \div 22</math> £15</p> <p>£15 AND £15.40 OR £1 AND £1.40 OR <math>(\frac{15 - 14}{14} \times 100 =) 7(.142\dots)\%</math> (&lt; 10%)</p>	<p>M1</p> <p>A1</p> <p>A1</p>	<p>An indication of £1 extra per hour implies M1A1.</p> <p>FT 'their £15' provided M1 awarded and &lt; £15.40. FT 'their £15' - £14 provided M1 awarded and &lt; £1.40. Beware of 7% coming from wrong working.</p>
<p>9(b) <i>Alternative method 1</i> <math>14 \times 22 \times 1.1</math> or <math>14 \times 22 + \frac{14 \times 22}{10}</math> oe</p> <p>= (£)338.8(0) (&gt; £330)</p>	<p>M2</p> <p>A1</p>	<p>FT 'their <math>14 \times 22</math>' from (a) M1 for <math>\frac{14 \times 22}{10}</math> oe</p>
<p>9(b) <i>Alternative method 2</i> <math>330 - 14 \times 22</math> (= 330 - 308) (10% of <math>14 \times 22</math>) = <math>\frac{14 \times 22}{10}</math> oe</p> <p>Correct comparison of 22 AND 10% of 308</p>	<p>M1</p> <p>M1</p> <p>A1</p>	<p>FT 'their <math>14 \times 22</math>' from (a) FT 'their <math>14 \times 22</math>' from (a)</p> <p>22 must come from a correct method. 10% of 308 may be rounded or truncated.</p>
(7)		

<p>10.(a)</p> $6x = 30$ $x = 5$	<p>B1</p> <p>B1</p>	<p>FT equation in the form <math>6x = a</math>. Accept <math>\frac{a}{6}</math> but if on FT it simplifies to an integer the answer must be given as an integer.</p> <p>Allow B1 B1 for embedded answers provided not contradicted. e.g. B1 B1 for <math>6 \times 5 - 3 = 27</math>. B1 B0 for <math>6 \times 5 - 3 = 27 \quad x = 27</math></p> <p>B0 B0 for simply writing <math>30 - 3 = 27</math>.</p>
<p>10.(b)</p> $12w^3$	<p>B2</p>	<p>Mark final answer. B1 for one of the following:</p> <ul style="list-style-type: none"> <li>• <math>12 \times w^3</math></li> <li>• <math>w^3 \times 12</math></li> <li>• <math>12w^n</math> where <math>n \neq 3</math> or <math>n \neq 0</math>.</li> <li>• <math>12www</math></li> <li>• <math>nw^3</math> where <math>n \neq 12</math>.</li> </ul>
<p>10.(c)(i)</p> $k - 10$	<p>B1</p>	<p>Mark final answer. Allow</p> <ul style="list-style-type: none"> <li>• <math>k</math> mins – 10 mins</li> <li>• <math>k - 10</math> m</li> <li>• <math>k</math> m – 10 m</li> <li>• Ellie = <math>k - 10</math></li> <li>• <math>E = k - 10</math></li> </ul> <p>Do not allow <math>k = k - 10</math></p>
<p>10.(c)(ii)</p> $100t$	<p>B1</p>	<p>Mark final answer. Accept <math>100 \times t</math> or <math>t \times 100</math></p> <p>Allow</p> <ul style="list-style-type: none"> <li>• <math>100t</math> p</li> <li>• Dress = <math>100 \times t</math></li> <li>• <math>D = 100 \times t</math></li> <li>• <math>\pounds t = 100t</math></li> </ul> <p>Do not allow <math>t = 100t</math>.</p>
	<p>(6)</p>	

11.(a) (average speed =) $20 \div 2$  10 (mph)	M1  A1	
11.(b) Accept suitable explanation e.g. <ul style="list-style-type: none"> <li>• 'He was stationary'.</li> <li>• 'He stopped (for a break)'.</li> </ul>	E1	Allow 'he wasn't cycling' OR 'the distance travelled stayed the same'.  E0 for 'it stayed the same'.
11.(c) 15:30 (and) 16:00	B1	
11.(d) Straight line connecting (18:00, 40) and (20:30, 60)	B2	B1 for either: <ul style="list-style-type: none"> <li>• sight of 2.5 hours</li> <li>• a straight line connecting (18:00, 40) and (20:30, 20)</li> </ul> Allow B1 for a straight line from (18:00, 40) ending at 20:30.
	(6)	
12.(a) No indicated and suitable explanation e.g. <ul style="list-style-type: none"> <li>• 'He has divided by 2 (instead of finding the square root)'</li> <li>• '<math>200^2 = 40\ 000</math>'</li> <li>• '<math>\sqrt{40000} = 200</math>'</li> <li>• '<math>\sqrt{400} = 20</math>'</li> </ul>	E1	Allow No with ( $\sqrt{400} =$ ) 20.  Allow No indicated with other suitable reasons e.g. <ul style="list-style-type: none"> <li>• '<math>200 \times 2 = 400</math>, so <math>200 \times 200</math> is bigger than 400'.</li> <li>• '<math>200 \times 200</math> is not 400'.</li> </ul> Do not allow ' $200 + 200 = 400$ ' without further explanation.
12.(b) 150	B2	B1 for clear indication of $5^3 = 125$ .
12.(c) 2	B1	
12.(d) 13.2	B1	
	(5)	

<p>13. Two distinct valid criticisms based on sample size of 10 and sampling only one year group e.g.</p> <ul style="list-style-type: none"> <li>• 'She needs to ask more than 10 pupils'</li> <li>• 'She needs to ask pupils from other year groups'.</li> </ul>	<p>E2</p>	<p>E1 for one valid criticism.</p> <p>Allow E2 if two criticisms are stated in one answer space, with the second answer space blank or containing a non-contradictory criticism e.g. 'she needs to ask <u>more</u> pupils from <u>other year</u> groups'.</p> <p>Allow unambiguous implication e.g.</p> <ul style="list-style-type: none"> <li>• 'she <u>only</u> asked Year 7'</li> <li>• 'she <u>only</u> asked 10 pupils'</li> </ul> <p>Do not allow</p> <ul style="list-style-type: none"> <li>• 'she should have asked the whole school'</li> <li>• 'year 7 have only been in school for one year'</li> <li>• 'it is biased'</li> </ul>
	<p>(2)</p>	



<p>17. (Flour needed = <math>30 \times 2.5 = 75</math> (kg) OR (<math>30 \times 2500 = 75000</math> (g)</p> <p>(Number of small bags = <math>\frac{75}{1.5} = 50</math></p> <p><math>50 \times 0.8 - 30 \times 1.1</math> (= <math>40 - 33</math>)</p> <p>(£)7</p>	<p>B1</p> <p>B1</p> <p>M2</p> <p>A1</p>	<p>Accept equivalent work in pence.</p> <p>FT 'their 75'</p> <p>Units must be consistent for M2. FT 'their 50' for M2 or M1 provided 'their 50' &gt; 30 and B0 B1 previously awarded</p> <p>M1 for <math>50 \times 0.8 (= 40)</math></p> <p>CAO</p> <p>If M0 awarded, award a further SC1 for <math>30 \times 1.1 (= 33)</math>.</p>
(5)		
<p>18.</p> <p>(<math>\widehat{BAC}</math> or <math>\widehat{ABC} = \frac{180 - 50}{2} = 65^\circ</math>)</p> <p>AND (<math>x = 360 - 40 - 65 = 255^\circ</math>)</p> <p>OR</p> <p>(<math>\widehat{BAC} = 360 - 40 - 255 = 65^\circ</math>) AND (<math>\widehat{ABC} = 180 - 65 - 50 = 65^\circ</math>)</p> <p>A correctly explained solution.</p> <p>(<math>\widehat{BAC} = 65^\circ</math>)    <u>Base angles in an isosceles triangle are equal</u></p> <p>(<math>x = 255^\circ</math>)    <u>Angles around a point add up to <math>360^\circ</math>.</u></p> <p>OR starting with the <math>255^\circ</math>)</p> <p>(<math>\widehat{BAC} = 65^\circ</math>)    <u>Angles around a point add up to <math>360^\circ</math>.</u></p> <p>(<math>\widehat{ABC} = 65^\circ</math>)    <u>Base angles in an isosceles triangle are equal</u></p>	<p>B2</p> <p>E2</p>	<p>B1 for <math>\widehat{BAC} = 65^\circ</math> or <math>\widehat{ABC} = 65^\circ</math>. May be seen on diagram for B1.</p> <p>E2 and E1 dependent on B2 being awarded.</p> <p>E1 for 'base angles in an <u>isosceles</u> triangle are equal'</p>
(4)		
<p>19.(a)</p> <p>2 : 1 : 6 oe</p>	<p>B2</p>	<p>Answer space takes precedence.</p> <p>B1 for either:</p> <ul style="list-style-type: none"> <li>any two parts of a three-part ratio in the correct proportion e.g. 2 : 1 : 3 or 3 : 1 : 9 (must be integer values).</li> <li>a three-part ratio in the correct proportion containing non-integer or algebraic parts e.g. 0.4 : 0.2 : 1.2 or <math>2x : x : 6x</math></li> </ul>

<p>19.(b)  <math>(P(Y) + P(O) + P(G) = 1 - 0.46 =) 0.54</math></p> $P(G) = 6 \times \frac{0.54}{2+1+6}$ <p><math>P(G) = 0.36</math></p>	<p>B1  M2  A1</p>	<p>FT 'their 2, 1 and 6' and 'their 1 - 0.46' provided &lt;1.  M1 for <math>\frac{0.54}{2+1+6}</math>  CAO</p>
(6)		
<p>20*. (a)</p> <p><math>8a + 22</math> OR <math>2(4a + 11)</math></p>	<p>B2</p>	<p>B1 for one of the following:</p> <ul style="list-style-type: none"> <li>• <math>8a + k</math> where <math>k \neq 0</math></li> <li>• <math>ka + 22</math> where <math>k \neq 0</math></li> <li>• <math>15a - 6 - 7a + 28</math></li> </ul> <p>Mark final answer for B2 only.  Penalise -1 for incorrect further work</p>
<p>20*. (b)</p> $5x + 7 + 6x - 9 + 8x - 27 = 180$ $19x = 209$ $x = 11$ <p>Method to calculate all three angles e.g.</p> $5 \times 11 + 7 \quad (= 62)$ $6 \times 11 - 9 \quad (= 57)$ $8 \times 11 - 27 \quad (= 61)$ <p>OR calculates two angles by substitution and the third by subtracting sum from 180</p> <p>All three angles correctly calculated:  <math>62^\circ, 57^\circ, 61^\circ</math> (so not isosceles)</p>	<p>M1  A1  A1  M1  A1</p>	<p>May be seen in stages  Allow M1 for <math>(180 - 7 + 9 + 27) \div (5 + 6 + 8)</math>  Implies M1 Allow <math>209 \div 19</math>  FT from <math>ax = b</math> OR 'their 209' <math>\div</math> 'their 19' provided M1 awarded  For FT, accept answer written as a correctly simplified, improper fraction (unless it gives a whole number), mixed number or decimal.  If answer is only given as a decimal, it must be correct to 1 decimal place – rounded or truncated.</p> <p>If <math>x \neq 11</math> FT 'their <math>x</math>' provided <math>x \geq 4</math> and M1 previously awarded.</p> <p>M1 implied if three angles correctly found (without working shown) from FT of 'their <math>x</math>'</p> <p>CAO</p> <p>If no marks, award:  SC2 for <math>x = 11</math>, obtained with no working shown or trials used AND angles of <math>62^\circ, 57^\circ, 61^\circ</math> (so not isosceles)  OR  SC1 for <math>x = 11</math> obtained with no working shown or trials used.</p>

<p><u>Alternative method – showing that if two angles are equal, angle sum is not 180(°)</u></p> <p>One pair of angles equated e.g. <math>6x - 9 = 5x + 7</math></p> <p>Correct value of <math>x</math> obtained e.g. <math>x = 16</math> AND correct angle sum calculated e.g. <math>275(°)</math></p> <p><b>Both</b> other pairs of angles equated e.g. <math>8x - 27 = 5x + 7</math> AND <math>8x - 27 = 6x - 9</math></p> <p>Both equations solved correctly <math>x = 11\frac{1}{3}</math> AND <math>x = 9</math> AND correct angle sums calculated e.g. <math>186\frac{1}{3}(°)</math> and <math>142(°)</math></p>	<p>M1</p> <p>A1</p> <p>M1</p> <p>A2</p>	<p>A1 for one correct value of <math>x</math> and the correct angle sum provided M1 awarded.</p> <table border="1" data-bbox="853 728 1369 1182"> <tbody> <tr> <td><math>6x - 9 = 5x + 7</math></td> <td><math>5 \times 16 + 7 = 87</math></td> </tr> <tr> <td><math>x = 16</math></td> <td><math>6 \times 16 - 9 = 87</math></td> </tr> <tr> <td></td> <td><math>8 \times 16 - 27 = 101</math></td> </tr> <tr> <td></td> <td><b>Total = 275(°)</b></td> </tr> <tr> <td><math>8x - 27 = 5x + 7</math></td> <td><math>5 \times 11\frac{1}{3} + 7 = 63\frac{2}{3}</math></td> </tr> <tr> <td><math>3x = 34</math></td> <td><math>6 \times 11\frac{1}{3} - 9 = 59</math></td> </tr> <tr> <td><math>x = 11\frac{1}{3}</math></td> <td><math>8 \times 11\frac{1}{3} - 27 = 63\frac{2}{3}</math></td> </tr> <tr> <td></td> <td><b>Total = 186<math>\frac{1}{3}</math>(°)</b></td> </tr> <tr> <td><math>8x - 27 = 6x - 9</math></td> <td><math>5 \times 9 + 7 = 52</math></td> </tr> <tr> <td><math>2x = 18</math></td> <td><math>6 \times 9 - 9 = 45</math></td> </tr> <tr> <td><math>x = 9</math></td> <td><math>8 \times 9 - 27 = 45</math></td> </tr> <tr> <td></td> <td><b>Total = 142(°)</b></td> </tr> </tbody> </table>	$6x - 9 = 5x + 7$	$5 \times 16 + 7 = 87$	$x = 16$	$6 \times 16 - 9 = 87$		$8 \times 16 - 27 = 101$		<b>Total = 275(°)</b>	$8x - 27 = 5x + 7$	$5 \times 11\frac{1}{3} + 7 = 63\frac{2}{3}$	$3x = 34$	$6 \times 11\frac{1}{3} - 9 = 59$	$x = 11\frac{1}{3}$	$8 \times 11\frac{1}{3} - 27 = 63\frac{2}{3}$		<b>Total = 186<math>\frac{1}{3}</math>(°)</b>	$8x - 27 = 6x - 9$	$5 \times 9 + 7 = 52$	$2x = 18$	$6 \times 9 - 9 = 45$	$x = 9$	$8 \times 9 - 27 = 45$		<b>Total = 142(°)</b>
$6x - 9 = 5x + 7$	$5 \times 16 + 7 = 87$																									
$x = 16$	$6 \times 16 - 9 = 87$																									
	$8 \times 16 - 27 = 101$																									
	<b>Total = 275(°)</b>																									
$8x - 27 = 5x + 7$	$5 \times 11\frac{1}{3} + 7 = 63\frac{2}{3}$																									
$3x = 34$	$6 \times 11\frac{1}{3} - 9 = 59$																									
$x = 11\frac{1}{3}$	$8 \times 11\frac{1}{3} - 27 = 63\frac{2}{3}$																									
	<b>Total = 186<math>\frac{1}{3}</math>(°)</b>																									
$8x - 27 = 6x - 9$	$5 \times 9 + 7 = 52$																									
$2x = 18$	$6 \times 9 - 9 = 45$																									
$x = 9$	$8 \times 9 - 27 = 45$																									
	<b>Total = 142(°)</b>																									
	(7)																									
<p>21*.</p> <p>(<math>m =</math>) 2.5</p> <p>(<math>n = 6 \times 2.5 =</math>) 15</p>	<p>B2</p> <p>B1</p>	<p>Answer space takes precedence.</p> <p>B1 for one of the following:</p> <ul style="list-style-type: none"> <li>• <math>(p + q) = \binom{2}{6}</math> not simplified e.g. <math>\binom{1}{3}</math></li> <li>• <math>2m = 5</math></li> </ul> <p>Strict FT 6 x 'their <math>m</math>' derived or stated – not from incorrect working.</p>																								
	(3)																									

<p>22*.(a) Midpoints 5 15 25 35</p> $5 \times 10 + 15 \times 12 + 25 \times 16 + 35 \times 12$ $(50 + 180 + 400 + 420) (= 1050)$ <p style="text-align: right;"><math>\div 50</math></p> <p>21</p>	<p>B1</p> <p>M1</p> <p>m1</p> <p>A1</p>	<p>Only FT for 'their midpoints' provided at least 3 of them are at the bounds or within the groups</p> <p>If midpoints are <b>not</b> stated, award            B1 M1 for <math>50 + 180 + 400 + 420</math> OR 1050            B1 M0 for <math>50, 180, 400</math> and 420            B0 M1 for the sum of 4 values with 3 correct</p> <p>FT correct evaluation using their midpoints.            On FT, allow truncated answers or rounded to nearest whole number or better</p>
<p>22*.(b)</p> <p>40 (%)</p>	<p>B2</p> <p>(6)</p>	<p>FT 'their 50' from (a) for B1 and B2            Do not allow 'their 50' = 100</p> <p>B1 for sight of <math>\frac{12 + \frac{16}{2}}{50} (\times 100)</math></p> <p>Allow B1 for 20 out of 'their 50'</p> <p>On FT the percentage must be given correct to the nearest integer or better for the award of B2</p>

23*. (a) 5:1	B2	B1 for one of the following: <ul style="list-style-type: none"> <li>1500:300 OR 15:3 oe</li> <li>1:5 from clear, correct unit conversion</li> </ul> If no marks, award SC1 for 1:2 (from 150:300 or 15:30)
23*. (b)(i) $\frac{7}{15}$	B1	
23*. (b)(ii) 560 ÷ (5+3) × 7 OR 560 – 560 ÷ (5+3)	M2	May be seen in stages M1 for sight of 560 ÷ (5 + 3) or 70
490 (g)	A1	CAO
	(6)	
24*. (a) $\frac{9}{10}$ and $\frac{1}{10}$ oe, correctly placed on the tree diagram  $\frac{9}{50} \div \frac{9}{10}$ or $\frac{9}{10} \times x = \frac{9}{50}$  $\frac{1}{5}$ oe  $\frac{1}{5}, \frac{4}{5}$ and $\frac{1}{5}, \frac{4}{5}$ oe on tennis branches	B1  M1  A1  B1	Allow equivalent decimal probabilities   Implies M1  FT provided M1 awarded AND 'their $\frac{1}{5}$ and $\frac{4}{5}$ ' add to 1
24*. (b) $(\frac{9}{10} \times \frac{4}{5}) + (\frac{1}{10} \times \frac{1}{5})$ oe  $\frac{37}{50}$ oe	M2  A1	FT 'their $\frac{1}{5}$ and $\frac{4}{5}$ ' provided they add to 1  M1 for sight of $\frac{9}{10} \times \frac{4}{5}$ or $\frac{1}{10} \times \frac{1}{5}$ oe
	(7)	

<p>25*. (a)</p> <table border="1" data-bbox="225 300 679 479"> <thead> <tr> <th>True</th> <th>False</th> <th>Need more information</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>✓</td> <td></td> <td></td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	True	False	Need more information			✓	✓				✓		B2	For all three correct B1 for any two correct
True	False	Need more information												
		✓												
✓														
	✓													
<p>25*.(b) Yes indicated or clearly implied (with indication of one 120° angle) with two 30° angles.</p> <p>25*.(c)  <math>(\frac{10}{7.5} = \frac{12}{9} = \frac{8}{6})</math> same scale factor = <math>\frac{4}{3}</math> oe  OR <math>(\frac{7.5}{10} = \frac{9}{12} = \frac{6}{8})</math> same scale factor = <math>\frac{3}{4}</math> oe</p>	B2	<p>B1 for a clear indication of interior angle of 120°</p> <p>B2 B1 just for <math>\frac{10}{7.5} = \frac{12}{9} = \frac{8}{6}</math> OR <math>\frac{7.5}{10} = \frac{9}{12} = \frac{6}{8}</math></p> <p>Award no marks if the ratios of less than three pairs of sides compared.</p>												
<p><u>Alternative method 1</u></p> <p>12:10:8 and 9:7.5:6 both simplify to 6:5:4 oe OR both equivalent to 108:90:72 oe</p>	B2	B1 for stating 12:10:8 = 9:7.5:6 without simplifying to 6:5:4												
<p><u>Alternative method 2</u> B2 for any one of the following:</p> <p><math>7.5 \times \frac{12}{9} = 10</math> AND <math>6 \times \frac{12}{9} = 8</math>  <math>10 \div \frac{12}{9} = 7.5</math> AND <math>8 \div \frac{12}{9} = 6</math>  <math>9 \times \frac{10}{7.5} = 12</math> AND <math>6 \times \frac{10}{7.5} = 8</math>  <math>12 \div \frac{10}{7.5} = 9</math> AND <math>8 \div \frac{10}{7.5} = 6</math>  <math>9 \times \frac{8}{6} = 12</math> AND <math>7.5 \times \frac{8}{6} = 10</math>  <math>12 \div \frac{8}{6} = 9</math> AND <math>10 \div \frac{8}{6} = 7.5</math></p>	B2	<p>B1 for any one of the following:</p> <p><math>7.5 \times \frac{12}{9} = 10</math> OR <math>6 \times \frac{12}{9} = 8</math>  <math>10 \div \frac{12}{9} = 7.5</math> OR <math>8 \div \frac{12}{9} = 6</math>  <math>9 \times \frac{10}{7.5} = 12</math> OR <math>6 \times \frac{10}{7.5} = 8</math>  <math>12 \div \frac{10}{7.5} = 9</math> OR <math>8 \div \frac{10}{7.5} = 6</math>  <math>9 \times \frac{8}{6} = 12</math> OR <math>7.5 \times \frac{8}{6} = 10</math>  <math>12 \div \frac{8}{6} = 9</math> OR <math>10 \div \frac{8}{6} = 7.5</math></p>												
	(6)													