

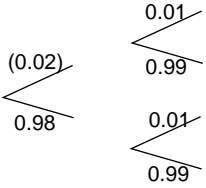
# EDUQAS GCSE MATHEMATICS

## SUMMER 2023 MARK SCHEME

| Component 2: Higher Tier   | Mark            | Comments  |
|--|-----------------|---|
| 1.*(a)<br>$\frac{675}{45 \times 60}$ oe<br>0.25 (N/cm <sup>2</sup> )   | M1<br><br>A1    |   |
| 1.*(b)<br>0.75 × (45 × 60) or 675 × 3<br>2025 (N)  | M1<br>A1<br>(4) | FT 'their 2700' from (a) if necessary   |
| 2.*(a)(i)<br>2014 and 2016   | B1              |   |
| 2.(a)(ii)<br>No and valid explanation<br>e.g. one of the following:<br>'There is no data for 2009'<br>'The data is only for even-numbered years.'<br>'The lines joining the points on a time-series graph have no value.'<br>'The graph shows 'households' and Jane mentions 'people'' | E1              | Allow one of the following:<br>'There is no point on 2009'<br>'We can't tell the % exactly between the even years'<br>'It could be higher or lower between the plotted points'  |
| 2.(b)(i)<br>All points correctly plotted   | P1              | Check overlay for tolerance<br><br>Allow if plots are correct but incorrectly joined.   |
| 2.(b)(ii)<br>2018  | B1              | FT 'their plotted points' providing at least 5 points correctly plotted and a unique solution   |
| 2.(b)(iii)<br>Comment that includes words indicating internet keeps on increasing whereas desktop ownership decreases (after 2014)   | E1              | A comment does not need to mention the years but must imply computer ownership <b>and</b> internet connection.<br><br>Allow 'the county will follow a similar trend to Eduvale'   |
|  | (5)             |   |
| 3(a)<br>An appropriately worded question<br>e.g.<br>How much money do you spend each month on Pop?<br>AND<br>An appropriate set of response boxes<br>(£)0 (£)1 – (£)3 (£)4 – (£)6<br>More than (£)6  | B2              | Question must include 'each month' oe,<br><br>Allow 'how many bottles'<br><br>A minimum of 3 response boxes which must cover all options including 0 AND 'no upper limit' AND no overlap<br><br>Award B1 for an appropriately worded question with no more than 'one identified error' from above response boxes<br><br>Award SC1 for question that includes 'per week' or 'per day' and fully correct set of response boxes. |

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|--|------------------------------|--|
| 3.(b)(i)<br>$\frac{87}{200}$ or 0.435 or 43.5%   | B1                           |  |
| 3.(b)(ii)<br>$\frac{43}{200}$ or 0.215 or 21.5%  | B1                           | Note: Allow SC1 for both answers correct but in incorrect form.<br>i.e. '87 out of 200' AND '43 out of 200'  |
|  | (4)                          |  |
| 4.*(a)<br>$8.2^2 - \pi \times \left(\frac{8.2}{2}\right)^2$ oe   | M3                           | M2 for sight of (area of circle =)<br>$\pi \times \left(\frac{8.2}{2}\right)^2$ (= 52.81....) oe<br>or<br>M1 for sight of (area of square =) $8.2^2$ (= 67.24)<br>AND for (radius of circle =) 4.1 (look on diagram)<br>May be embedded in an incorrect calculation  |
| 14.4 or 14.42 to 14.46 (cm <sup>2</sup> )  | A1                           | Allow 14 only if from correct working  |
| 4.(b)<br>7 x 9.8 x 16  | M2                           | M1 for 7 x 9.8 (=68.6)   |
| 1097.6 or 1098 (cm <sup>3</sup> )  | A1                           |  |
|  | (7)                          |  |
| 5.*(a)<br>5x = 8<br>x = 1.6 or $\frac{8}{5}$ ISW   | B1<br>B1                     | FT from $ax = 8, a \neq 1$ or $5x = b$<br>Accept $\frac{8}{a}$ or $\frac{b}{5}$ but if on FT either simplifies to an integer the answer must be given as an integer.<br><br>'x =' can be omitted but must not be wrong if there.<br><br>Correct answer implies first B1.   |
| 5.(b)<br>(number of apples =) $x + 2$ si<br><br>$30x + 25(x + 2) = 545$ oe<br><br>$55x + 50 = 545$ oe<br>$x = 9$ | B1<br><br>M1<br><br>m1<br>A1 | Not implied by use of numerical trials<br>Note: do not award B1 for $x + 2 = 545$ oe<br><br>FT 'their $x + 2$ ' providing binomial in $x$ ;<br>brackets may be omitted<br><br>Expands the brackets and simplifies<br>CAO (no FT as needs to be an integer answer)<br><br>If M0A0 award either:<br>SC2 for an answer of 9 if unsupported or from trials.<br>SC1 if 9 only seen in embedded working. |
| 5.(c)<br>$(x + 1)(x + 4)$  | B2                           | B1 for a pair of brackets that expand to give<br><br>$x^2 + 5x \pm a$<br>OR<br>$x^2 \pm bx + 4$  |
|  | (8)                          |  |

|  |   |   |
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| <p>6*(a)<br/> <math>3000 \times 1.04^5</math><br/> = (£)3649.95(87..) or (£)3649.96 or (£)3650<br/> <math>\frac{3649.96-3000}{3000} (\times 100)</math> oe AND <math>\frac{3 \times 190}{3000} (\times 100)</math> oe<br/> OR<br/> <math>\frac{3649.96-3 \times 190}{3000} (\times 100)</math></p> <p>A indicated AND 2.7(%) or 2.66...(%)</p> <p>Valid assumption e.g.<br/> 'Account A interest rate stays the same'<br/> 'Account A interest rate <b>does not</b> vary'<br/> 'Account A interest rate <b>does not</b> go up or down'</p> | <p>M1<br/> A1<br/> M2<br/> A1<br/> E1</p> | <p>Or equivalent full and complete method</p> <p>FT 'their 3649.96' provided M1 previously awarded</p> <p>M1 for either <math>\frac{3649.96-3000}{3000} (\times 100)</math> or <math>\frac{3 \times 190}{3000} (\times 100)</math> provided M1 previously awarded</p> <p>FT. Allow 2(%) or 2.6(%) or 3(%)</p> <p>Do not allow<br/> 'Account A, interest rate can vary'<br/> 'Account A interest rate is not guaranteed'</p> |
| <p><i>Alternative method</i><br/> <math>1.04^5 \times 100 - 100</math> oe</p> <p>21.7(%) or 21.66...(%)</p> <p><math>(3 \times 190) \div 3000 (\times 100) (=19\%)</math></p> <p>A indicated AND 2.7(%) or 2.66...(%)</p> <p>Valid assumption e.g.<br/> 'Account A interest rate stays the same'<br/> 'Account A interest rate <b>does not</b> vary'<br/> 'Account A interest rate <b>does not</b> go up or down'</p>  | <p>M2<br/> A1<br/> M1<br/> A1<br/> E1</p> | <p>= <math>1.2166... \times 100 - 100</math></p> <p>M1 for <math>1.04^5</math></p> <p>Allow 21(%) or 21.6(%) or 22(%)</p> <p>FT providing M1 previously awarded</p> <p>FT providing M1 M1 previously awarded</p> <p>Allow 2(%) or 2.6(%) or 3(%)</p> <p>Do not allow<br/> 'Account A - interest rate can vary'<br/> 'Account A interest rate is not guaranteed'</p>   |
| <p>6.(b)<br/> Valid impact based on assumption e.g.<br/> 'Even if the interest rate went up, the answer would still be account A but the difference would be more.'<br/> 'If the interest rate went down, account A may not have the greater increase.'<br/> 'If the interest rate doesn't stay the same, then Account A could have even more money than B or less than B'</p>   | <p>E1</p>                                 | <p>If no valid assumption is made then this mark cannot be awarded. EOE1 not allowed.</p> <p>Allow 'the answer <u>could</u> be different'.</p> <p>Do not allow 'the answer could be wrong'.</p>   |
|  | <p>(7)</p>                                |   |

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|---|--|---|
| <p>7.</p> <p>Arc (of circle) centre <math>A</math> radius 5.5 cm</p> <p>Correct perpendicular bisector construction with appropriate arcs</p> <p>Correct area shaded or indicated</p>   | <p>B1</p> <p>B2</p> <p>B1</p>            | <p><math>\pm 2\text{mm}</math></p> <p>B1 for perpendicular bisector within tolerance (<math>\pm 2^\circ</math>) without arcs or with invalid arcs</p> <p>FT provided at least B1 previously awarded for a closed region bounded by an attempt at a perpendicular bisector, with or without arcs, and the arc of a circle centre <math>A</math></p>  |
| (4)   |  |   |
| <p>8.*</p> <p>Use of right-angled triangle with trigonometry with <math>3^\circ</math> or <math>87^\circ</math> correctly indicated with 2.5 used as a side.</p> <p>(vertical height =) <math>2.5 \tan 3^\circ</math> or <math>\frac{2.5}{\tan 87^\circ}</math></p> <p>0.1(3...) (km)</p> | <p>S1</p> <p>M2</p> <p>A1</p>            | <p>Degree symbol may be omitted throughout; lengths may be in metres throughout</p> <p>Angle may be marked on diagram; trig ratio used may not be correct at this stage</p> <p>M1 for <math>\tan 3^\circ = \frac{?}{2.5}</math> or <math>\tan 87^\circ = \frac{2.5}{?}</math></p> <p>Not from wrong working e.g. <math>2.5\sin(3)</math></p> <p>If units are stated, they must be correct but ISW any attempt at a unit change after a correct answer has been seen</p> <p>Unsupported 0.1(3...) is awarded S1 only</p> |
| <p><i>Alternative method</i></p> <p>Use of right-angled triangle with trigonometry with <math>3^\circ</math> or <math>87^\circ</math> correctly indicated with 2.5 used as a side.</p> <p>(vertical height =) <math>\frac{2.5 \times \sin 3}{\sin 87}</math></p> <p>0.1(3...) (km)</p>    | <p>S1</p> <p>M2</p> <p>A1</p> <p>(4)</p> | <p>Angle may be marked on diagram; trig ratio used may not be correct at this stage</p> <p>M1 for <math>\frac{2.5}{\sin 87} = \frac{x}{\sin 3}</math> oe</p> <p>Unsupported 0.1(3...) is awarded S1 only</p>  |
| <p>9.(a)</p> <p>Correctly completes the tree diagram</p>   | <p>B1</p> <p>B1</p>                      | <p>0.98 correctly placed</p> <p>0.01 and 0.99 correctly placed on both pairs of branches</p>  |
| <p>9.(b)(i)</p> <p><math>0.98 \times 0.99</math></p> <p><math>0.9702</math> or <math>\frac{4851}{5000}</math> oe</p>  | <p>M1</p> <p>A1</p>                      | <p>FT 'their 0.98 and 0.99' from their tree diagram provided they are less than 1</p> <p>FT<br/>Allow 0.97 from correct working (not if unsupported)</p>  |
| <p>9.(b)(ii)</p> <p><math>(0.02 \times 0.99) + (0.98 \times 0.01)</math></p> <p><math>0.0296</math> or <math>\frac{37}{1250}</math> oe</p>  | <p>M2</p> <p>A1</p> <p>(7)</p>           | <p>For M1 or M2, FT their probabilities from their tree provided they are less than 1</p> <p>M1 for either <math>(0.02 \times 0.99)</math> or <math>(0.98 \times 0.01)</math></p> <p>FT<br/>Allow 0.03 from correct working (not if unsupported)</p>  |

| <p>10.<br/> <math>(5x \times 4x)(x + 4x) = 172.8</math> or better</p> <p><math>20x^2 \times 5x = 172.8</math> or better</p> <p><math>x = 1.2</math></p> <p>(Area patio =) 23.04 (m<sup>2</sup>)</p>  | <p>M2</p> <p>M1</p> <p>A1</p> <p>B1</p>           | <p>M1 for <math>5xy(x + y) = 172.8</math></p> <p>Allow M1 for one of the following:</p> <ul style="list-style-type: none"> <li><math>x + y \times 5xy = 172.8</math></li> <li><math>5xy \times x + y = 172.8</math></li> <li><math>20x^2 \times 5x</math></li> </ul> <p>FT 'their derived <math>(5x \times 4x)(x + 4x)</math>'</p> <p>CAO</p> <p>FT <math>(4 \times \text{'their 1.2'})^2</math> provided at least 2 marks previously awarded</p>                                 |     |     |     |    |     |     |     |    |           |  |
|--|---|---|-----|-----|-----|----|-----|-----|-----|----|-----------|--|
| <p><u>Alternative method</u></p> <p><math>(5 \times \frac{y}{4} \times y) (\frac{y}{4} + y) = 172.8</math> or better</p> <p><math>\frac{5}{4}y^2 \times \frac{5}{4}y = 172.8</math></p> <p><math>y = 4.8</math></p> <p>(Area patio =) 23.04 (m<sup>2</sup>)</p>  | <p>M2</p> <p>M1</p> <p>A1</p> <p>B1</p>           | <p>M1 for <math>5xy(x + y) = 172.8</math></p> <p>Allow M1 for one of the following:</p> <ul style="list-style-type: none"> <li><math>x + y \times 5xy = 172.8</math></li> <li><math>5xy \times x + y = 172.8</math></li> <li><math>\frac{5y^2}{4} \times (\frac{y}{4} + y)</math></li> </ul> <p>FT 'their derived <math>(5 \times \frac{y}{4} \times y) (\frac{y}{4} + y)</math>'</p> <p>CAO</p> <p>FT ('their 4.8')<sup>2</sup> provided at least 2 marks previously awarded</p> |     |     |     |    |     |     |     |    |           |  |
| <p>11.</p> <p><math>a = 7x + 7y^5 + 2</math><br/> <math>a - 7x - 2 = 7y^5</math><br/> <math>\frac{a-7x-2}{7} = y^5</math><br/> <math>y = \sqrt[5]{\frac{a-7x-2}{7}}</math></p> <p><u>Alternative method</u><br/> <math>a - 2 = 7(x + y^5)</math><br/> <math>\frac{a-2}{7} = x + y^5</math> or <math>a - 2 = 7x + 7y^5</math><br/> <math>\frac{a-2}{7} - x = y^5</math> or <math>\frac{a-2-7x}{7} = y^5</math><br/> <math>y = \sqrt[5]{\frac{a-2}{7} - x}</math> or <math>y = \sqrt[5]{\frac{a-2-7x}{7}}</math></p> | <p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> | <p>FT each step until second error</p> <p>Expand brackets</p> <p>Isolate <math>7y^5</math></p> <p>Isolate <math>y^5</math></p> <p>Mark final answer</p> <p>FT each step until second error</p> <p>Mark final answer</p>   |     |     |     |    |     |     |     |    |           |  |
| <p>12</p> <table border="1" data-bbox="199 1659 732 1753"> <thead> <tr> <th>Range</th> <th>Median</th> <th>LQ</th> <th>UQ</th> <th>IQR</th> </tr> </thead> <tbody> <tr> <td>34</td> <td>174</td> <td>168</td> <td>186</td> <td>18</td> </tr> </tbody> </table>   | Range   | Median  | LQ  | UQ  | IQR | 34 | 174 | 168 | 186 | 18 | <p>B3</p> | <p>If IQR not 18, FT IQR from 'their UQ-LQ'</p> <p>B2 for 4 correct values</p> <p>OR</p> <p>B1 for correct values for any one of the following:</p> <ul style="list-style-type: none"> <li>Range</li> <li>Median and IQR</li> <li>LQ and UQ</li> </ul> |
| Range  | Median  | LQ  | UQ  | IQR |     |    |     |     |     |    |           |  |
| 34   | 174   | 168   | 186 | 18  |     |    |     |     |     |    |           |  |

|   |                            |  |
|---|----------------------------|--|
| 13.(a)<br>Valid explanation e.g.<br>'When the second reduction is made, it is not 15% of the original amount, so the reduction is less than 35%.' or 'The reduction is 32% not 35%.' or 'It is 15% of 80% not 15% of 100%'  | E1                         |  |
| 13.(b)<br>306 000<br>$\div 0.85$ oe, si<br>$\div 0.8(0)$ oe, si<br><br>(£)450 000   | M1<br>M1<br><br>A2         | Method marks can be awarded in either order<br><br>Notes:<br>M2 for $\div 0.68$ OR $\div (0.8 \times 0.85)$<br>M1 for $\div 0.8 \times 0.85$ OR $\times 0.85 \div 0.8$ unless the answer is (£)450 000 which is awarded M2 A2<br>A1 for sight of one of the following <ul style="list-style-type: none"> <li>• 360 000 (from <math>306\ 000 \div 0.85</math>)</li> <li>• 382 500 (from <math>306\ 000 \div 0.8</math>)</li> <li>• 288 000 (from <math>306\ 000 \div 0.85 \times 0.8</math>)</li> <li>• 325 125 (from <math>306\ 000 \div 0.8 \times 0.85</math>)</li> </ul><br>An answer of (£)450 000 which is awarded 4 marks unless incorrect working seen. |
|   | (5)                        |  |
| 14.(a)<br>(1 078 500 + 249 350 =) 1 327 850 (km <sup>2</sup> )  | B2                         | B1 for 1327300 < answer < 1328400  |
| 14.(b)<br>81 500 000<br>$81\ 500\ 000 \leq \text{min pop} < 82\ 000\ 000$<br>1 327 850<br>61(.377...) (people/km <sup>2</sup> ) ISW   | B1<br>M1<br><br>A1         | FT their (a)<br><br>FT only for 81 500 000 $\div$ their (a)  |
|   | (5)                        |  |
| 15.(a)<br>$-6 \leq x \leq 6$ or   | B3                         | B2 for one of the following <ul style="list-style-type: none"> <li>• <math>-6 \leq x &lt; 6</math></li> <li>• <math>-6 &lt; x \leq 6</math></li> <li>• <math>-6 \leq x</math> <b>or</b> <math>x \leq 6</math></li> <li>• <math>-6 &lt; x &lt; 6</math></li> </ul> B1 for one of the following: <ul style="list-style-type: none"> <li>• <math>(x-6)(x+6)</math></li> <li>• <math>x \leq 6</math></li> <li>• <math>x = \pm 6</math></li> </ul>  |
| 15.(b)<br>Correct parabola starting at (-6, 0) and ending at (6, 0).  | B2                         | B1 for correct parabola going through and extending beyond (-6, 0) and (6, 0).<br><br>FT their (a) for B1 if possible.   |
|   | (5)                        |  |
| 16.<br>(area sector =) $\frac{62}{360} \times \pi \times 15^2$<br>121.7(3...)<br>(area triangle =) $\frac{1}{2} \times 15 \times 8 \times \sin(90 - 62)$<br>28.17 or 28.168(2....)<br><br>A sum of correct areas that rounds to 150 e.g.<br>121.7(3...) + 28.16(8...) = 149.9... (=150) | M1<br>A1<br>M1<br>A1<br>B1 | CAO; accept $\frac{155}{4}\pi$ ; allow 122<br><br>FT 'their derived 28°' but must use 15 and 8 m; allow 28 or 28.2<br>CAO; sight of 149.9(0...) implies 5 marks providing M1 M1 awarded<br><br>Allow e.g. $122 + 28.2 = 150.2$<br>but not $122 + 28 = 150$   |
|   | (5)                        |  |

|   |                |  |
|---|----------------|--|
| 17.(a)<br>$x^2 + \frac{1}{x} = 2x + 1$<br>$x^3 + 1 = 2x^2 + x$<br><br>Correct completion to<br>$x^3 - 2x^2 - x + 1 = 0$ | M1<br>M1<br>A1 |  |
| 17.(b)<br>$(x =) -0.8, 0.5 \text{ or } 0.6, 2.2 \text{ or } 2.3$  | B2             | B1 for any two correct or for answers given as coordinates or for 3 correct values not rounded to 1dp<br>(-0.8019..., 0.5549..., 2.246...)   |
|   | (5)            |  |
| 18.(a)<br>$f^{-1}(x) = \sqrt[3]{x}$   | B1             | $f^{-1}(x) =$ may be omitted   |
| 18.(b)<br>$g(x) = 125x^3 - 75x^2 + 15x - 1$   | B3             | Mark final answer; $g(x) =$ may be omitted<br><br>B2 for either of:<br>A correct unsimplified answer<br>$125x^3 - 25x^2 - 25x^2 + 5x - 25x^2 + 5x + 5x - 1$<br>OR<br>$(25x^2 - 5x - 5x + 1)(5x - 1)$ expanded with three of the four terms correct<br>OR<br>$(25x^2 + 10x + 1)(5x - 1) = 125x^3 + 25x^2 - 5x - 1$<br><br>B1 for attempt at expansion of<br>$(25x^2 - 5x - 5x + 1)(5x - 1)$ |
|   | (4)            |  |
| 19.(a)<br>$(BC =) \frac{13}{\sin 67^\circ} \times \sin 38^\circ$<br><br>8.7 or 8.69(4...) (cm)                          | M2<br>A1       | Degree symbol may be missing throughout<br>M1 for $\frac{BC}{\sin 38^\circ} = \frac{13}{\sin 67^\circ}$<br>Allow 9 from correct working  |
| 19.(b)<br>$(EF =) \sqrt{6^2 + 11^2 - 2(6)(11)\cos 43}$<br><br>7.77 to 7.8 (cm)  | M2<br>A1       | M1 for $EF^2 = 6^2 + 11^2 - 2(6)(11)\cos 43$<br>(=60(.46...))<br>Allow 8 from correct working  |
|   | (6)            |  |
| 20.(a)<br>5040  | B2             | B1 for $7 \times 6 \times 5 \times 4 \times 3 \times 2 (\times 1)$ or $7!$   |
| 20.(b)<br>720   | B2             | B1 for $6 \times 5 \times 4 \times 3 \times 2 (\times 1 \times 1)$ or $6!$ or 'their 5040' $\div 7$  |
| 20.(c)<br>$\frac{4320}{5040}$ or $\frac{6}{7}$ oe; ISW  | B1             | FT $\frac{\text{'their derived } 5040 - 720\text{'}}{\text{'their derived } 5040\text{'}}$   |
|   | (5)            |  |

|   |   |   |
|---|---|---|
| <p>21.<br/>(Depth of water = ) 15 (cm)</p> $\frac{1}{3}\pi \times 20^2 \times 50 - \frac{1}{3}\pi \times 6^2 \times 15$ $\frac{(20000\pi)}{3} - \frac{(540\pi)}{3} \text{ oe}$ <p>20943.95102 – 565.4866776<br/> <math>\frac{19460}{3}\pi</math> or 20378(.464...) si</p> <p>20378(.464...) ÷ 1000 × 10 oe</p> <p>204 or 203.7 to 203.8 (seconds)</p> | <p>B2</p> <p>M2</p> <p>A1</p> <p>M1</p> <p>A1</p> | <p>May be embedded in later working<br/> B1 for <math>\frac{6}{20} \times 50</math> oe</p> <p>FT provided B1 previously awarded for M2</p> <p>M1 for <math>\frac{1}{3}\pi \times 20^2 \times 50</math> or <math>\frac{1}{3}\pi \times 6^2 \times 15</math></p> <p>FT from M2 only</p> <p>FT 'their derived volume' providing at least 3 marks previously awarded</p> <p>CAO</p>           |
| <p><u>Alternative method</u><br/>(Depth of water = ) 15 (cm)</p> <p>(Time to fill initial volume =)<br/> <math>(\frac{1}{3} \times \pi \times 6^2 \times 15) \div 1000 \times 10</math></p> <p>5.6548 (s) si</p> <p>5.6548... × <math>\frac{20^3}{6^3}</math> – 5.6548... oe</p> <p>204 or 203.7 to 203.8 (seconds)</p>                               | <p>B2</p> <p>M2</p> <p>A1</p> <p>M1</p> <p>A1</p> | <p>May be embedded in later working<br/> B1 for <math>\frac{6}{20} \times 50</math> oe</p> <p>FT provided B1 previously awarded for M2</p> <p>M1 for <math>\frac{1}{3} \times \pi \times 6^2 \times 15</math></p> <p>FT from M2 only</p> <p>FT 'their derived volume' providing at least 3 marks previously awarded<br/> Must be a complete method to find the time needed</p> <p>CAO</p> |
| <p>22.(a)<br/>+3</p>  | <p>B1</p>   | <p>Allow 'Plus 3' but not 3</p>   |
| <p>22.(b)(i)<br/>Correct rearrangement to <math>x = \sqrt{\frac{2x+5}{x}}</math></p>  | <p>B1</p>   | <p>Allow working back from <math>x = \sqrt{\frac{2x+5}{x}}</math> to<br/> <math>x^3 - 2x - 5 = 0</math></p>   |
| <p>22.(b)(ii)<br/> <math>x_2 = \sqrt{\frac{9}{2}}</math> or 2.12(...)<br/> <math>x_3 = 2.08(...)</math><br/> <math>x_4 = 2.09(...)</math><br/> <math>x_5 = 2.09(...)</math></p> <p>(x = ) 2.1</p>   | <p>M1</p> <p>m1</p> <p>A1</p>                     | <p>Allow omission of <math>x_5 = 2.09...</math>;<br/> allow for <math>x_3 = 2.09</math> <math>x_4 = 2.1(0)</math> <math>x_5 = 2.09</math><br/> (from rounding consistently to 2dp)</p> <p>Allow omission of <math>x_5 = 2.09...</math>, ignore extra iterations if listed; answer without/with incorrect working does not imply the method marks</p>                                      |
|   | <p>(5)</p>  |   |

