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# **GCSE MARKING SCHEME**

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**SUMMER 2024**

**GCSE  
MATHEMATICS – NUMERACY  
UNIT 1 – INTERMEDIATE TIER  
3310U30-1**

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## 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.

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# WJEC GCSE MATHEMATICS - NUMERACY

## SUMMER 2024 MARKING SCHEME

| Unit 1: Intermediate Tier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mark                                                                                                                                                                                                                                                                           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| 1(a) Method to compare the same number of toothbrushes, e.g. for 1, 5, 6, 15, 30 or 60 toothbrushes<br><ul style="list-style-type: none"><li>• (1) 1(.)44 ÷ 3 AND 2(.)25 ÷ 5</li><li>• (3) (1(.)44 AND) 3 × 2(.)25 ÷ 5</li><li>• (5) 2 × 1(.)44 – 1(.)44 ÷ 3 (AND 2(.)25))</li><li>• (5) 5 × 1(.)44 ÷ 3 (AND 2(.)25))</li><li>• (6) 2 × 1(.)44 AND 2(.)25 ÷ 5 + 2(.)25</li><li>• (15) 5 × 1(.)44 AND 3 × 2(.)25</li><li>• (30) 10 × 1(.)44 AND 6 × 2(.)25</li><li>• (60) 20 × 1(.)44 AND 12 × 2(.)25</li></ul><br>An accurate calculation for a 3 pack <b>OR</b> a 5 pack, e.g. 48(p) or 45(p), (£)7.20 or (£)6.75<br><br>Cost of same number of toothbrushes for 3 pack <b>AND</b> 5 pack <b>WITH</b> conclusion pack of 5 is better value for money | M1<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><b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| Unit 1: Intermediate Tier                                                                                                                                                       | Mark                                                           | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3(b)<br>(Tax on first 15000 euros) $0.2(0) \times 15000$<br><br>(Tax on remaining income) $0.3(0) \times (26000 - 15000)$<br><br>(Total income tax) 6300 (euros)                | M1<br><br><br><br><br><br><br>M2<br><br><br><br><br><br><br>A2 | Ignore £ written for euros<br>(= 3000 euros)<br><br>(= 3300 euros)<br>M1 for (Remaining income to be taxed)<br>$26000 - 15000 (= 11000 \text{ euros})$<br><br>Ignore any further working (such as to calculate income – income tax)<br><br>A1 for either part of the tax correctly evaluated, i.e.<br>$(0.2(0) \times 15000 =) 3000 \text{ (euros)}$ or<br>$(0.3(0) \times (26000 - 15000) =) 3300 \text{ (euros)}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4(a)(i) $\frac{1}{3} \times 7200 \times \frac{90}{360}$ or $\frac{1}{3} \times 7200 \div 4$<br><br>or $2400 \div 4$ or $\frac{1}{3} \times 1800$<br><br><br>600 (Irish females) | M2<br><br><br><br><br><br><br>A1                               | M1 for any one of the following:<br><ul style="list-style-type: none"> <li><math>7200 \times \frac{90}{360} (= 1800)</math></li> <li><math>7200 \div 4 (= 1800)</math></li> <li><math>(7200 \div 3 =) 2400</math></li> </ul><br>CAO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4(a)(ii) (Number of adult Welsh spectators)<br>$7200 \times \frac{110}{360} \times 6 \div (6 + 5)$<br><br><br><br>1200                                                          | M2<br><br><br><br><br><br><br>A2                               | M1 for any one of the following:<br><ul style="list-style-type: none"> <li><math>7200 \times \frac{110}{360} (= 2200)</math></li> <li><math>7200 \times 6 \div (6 + 5) (= 3927.2727....)</math></li> <li><math>110 \times 6 \div (6 + 5) (= 60)</math></li> <li>'their number of Welsh spectators' <math>\times 6 \div (6 + 5)</math></li> </ul><br>A1 for any one of the following <u>correctly evaluated</u> :<br><ul style="list-style-type: none"> <li><math>(7200 \times \frac{110}{360} =) 2200</math></li> <li><math>(7200 \div 360 =) 20</math> <b>and</b> <math>(110 \times 6 \div 11 =) 60</math></li> <li>'their <math>7200 \times \frac{110}{360} \times 6 \div 11</math></li> <li>'their <math>7200 \times 6 \div 11 \times \frac{110}{360}</math></li> <li>'their <math>110 \times 6 \div 11 \times 20</math></li> <li>'their number of Welsh spectators' <math>\times 6 \div 11</math></li> </ul> |

| Unit 1: Intermediate Tier                                                                                                                                                                                                                                                | Mark                 | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <p>4(b) (Total of all entrance fees is)</p> <p>(Cycling entrance fees £) <math>2000 \times 25</math> +</p> <p>(Cycling and athletics entrance fees £) <math>4000 \times 40</math> +</p> <p>(Athletics entrance fee £) <math>1200 \times 30</math></p> <p>(£) 246 000</p> | <p>M2</p> <p>A1</p>  | <p>For the sum of the three appropriate products</p> <p>(50 000 +)</p> <p>(160 000 +)</p> <p>(36 000)</p> <p>M1 for any one of the following:</p> <ul style="list-style-type: none"> <li>• at least two appropriate products</li> <li>• one appropriate product in a sum of 3 products</li> </ul> <p>CAO</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>Organisation and communication</p> <p>Writing</p>                                                                                                                                                                                                                     | <p>OC1</p> <p>W1</p> | <p>For OC1, candidates will be expected to:</p> <ul style="list-style-type: none"> <li>• present their response in a structured way</li> <li>• explain to the reader what they are doing at each step of their response</li> <li>• lay out their explanations and working in a way that is clear and logical</li> <li>• write a conclusion that draws together their results and explains what their answer means</li> </ul> <p>For W1, candidates will be expected to:</p> <ul style="list-style-type: none"> <li>• show all their working</li> <li>• make few, if any, errors in spelling, punctuation and grammar</li> <li>• use correct mathematical form in their working</li> <li>• use appropriate terminology, units, etc.</li> </ul> |



| Unit 1: Intermediate Tier                                    | Mark                     | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
|--------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|-----------------------------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|-----------|-------------|-------------|----|------|------|----|------|------|----|------|------|----|------|------|
| 6(a)(i) (£) 70                                               | B2                       | B1 for any one of the following: <ul style="list-style-type: none"><li>• use of (£)2010</li><li>• use of (£)1940</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 6(a)(ii) Answer in the inclusive range<br>(£)1700 to (£)1780 | B1                       | Allow answers given as a range provided 'their range' is inclusively within the required range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 6(b) (Total area of the driveway)                            | M2                       | M1 for one of the following appropriate areas: <ul style="list-style-type: none"><li>• <math>\frac{1}{2} \times (10 - 7) \times (2 + 6)</math><br/>(= 12m<sup>2</sup> area of trapezium)</li><li>• <math>\frac{1}{2} \times 2 \times (7 + 10)</math><br/>(= 17m<sup>2</sup> area of trapezium)</li><li>• <math>\frac{1}{2} \times 6 \times (10 - 7)</math><br/>(= 9m<sup>2</sup> area of a triangle)</li><li>• <math>\frac{1}{2} \times (10 - 7) \times (6 - 2)</math><br/>(= 6m<sup>2</sup> area of the triangle)</li><li>• <math>\frac{1}{2} \times (6 - 2) \times (7 + 10)</math><br/>(= 34m<sup>2</sup> area 'extra' trapezium)</li></ul>                             |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
|                                                              | A1                       | CAO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| Cost in the inclusive range (£)1780 to (£)1860               | B1                       | FT '20 ≤ their derived composite <b>area</b> ≤ 30' for a suitable cost from the scatter diagram, within a range (shown below); must be for a composite area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
|                                                              |                          | Do not FT from the perimeter or with the missing side, 25(m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
|                                                              |                          | Allow an answer in a range, provided 'their range of answers' is inclusively within the stated range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
|                                                              |                          | On FT cost in the inclusive range:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
|                                                              |                          | <table><tr><th>Area (m<sup>2</sup>)</th><th>Least estimated cost (£)</th><th>Greatest estimated cost (£)</th></tr><tr><td>20</td><td>1410</td><td>1460</td></tr><tr><td>21</td><td>1460</td><td>1510</td></tr><tr><td>22</td><td>1520</td><td>1570</td></tr><tr><td>23</td><td>1590</td><td>1650</td></tr><tr><td>24</td><td>1650</td><td>1710</td></tr><tr><td>25</td><td>1700</td><td>1780</td></tr><tr><td><b>26</b></td><td><b>1780</b></td><td><b>1860</b></td></tr><tr><td>27</td><td>1850</td><td>1930</td></tr><tr><td>28</td><td>1920</td><td>2010</td></tr><tr><td>29</td><td>1970</td><td>2060</td></tr><tr><td>30</td><td>2030</td><td>2130</td></tr></table> | Area (m <sup>2</sup> ) | Least estimated cost (£) | Greatest estimated cost (£) | 20 | 1410 | 1460 | 21 | 1460 | 1510 | 22 | 1520 | 1570 | 23 | 1590 | 1650 | 24 | 1650 | 1710 | 25 | 1700 | 1780 | <b>26</b> | <b>1780</b> | <b>1860</b> | 27 | 1850 | 1930 | 28 | 1920 | 2010 | 29 | 1970 | 2060 | 30 | 2030 | 2130 |
| Area (m <sup>2</sup> )                                       | Least estimated cost (£) | Greatest estimated cost (£)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 20                                                           | 1410                     | 1460                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 21                                                           | 1460                     | 1510                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 22                                                           | 1520                     | 1570                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 23                                                           | 1590                     | 1650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 24                                                           | 1650                     | 1710                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 25                                                           | 1700                     | 1780                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| <b>26</b>                                                    | <b>1780</b>              | <b>1860</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 27                                                           | 1850                     | 1930                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 28                                                           | 1920                     | 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 29                                                           | 1970                     | 2060                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |
| 30                                                           | 2030                     | 2130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                          |                             |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |    |      |      |           |             |             |    |      |      |    |      |      |    |      |      |    |      |      |

| Unit 1: Intermediate Tier                                                                                                                                                                                                                                                                                                                          | Mark | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6(c) (Repair of 23m <sup>2</sup> driveway cost £)<br>0.4 × 1590 to 0.4 × 1650                                                                                                                                                                                                                                                                      | B1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 'No' unambiguously stated or implied <b>AND</b><br>a <u>correctly evaluated</u> 40% cost that will be in the<br>range (£)636 to (£)660                                                                                                                                                                                                             | B1   | Do not award if 'No' is based on further working, such<br>as 60% evaluated rather than 40%                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6(c) <u>Alternative method</u> e.g.<br><ul style="list-style-type: none"> <li>40% is (£)575 so 100% is <math>2.5 \times 575</math><br/>(= £1437.50)</li> <li>40% is (£)600 so 100% is <math>2.5 \times 600</math><br/>(= £1500)</li> </ul>                                                                                                         | B1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 'No' unambiguously stated or implied<br><b>AND</b> a correctly evaluated 100%<br><b>AND</b> shows less than needed, e.g. a reading from the<br>diagram £1590 to £1650 (22.8m <sup>2</sup> for £1600)                                                                                                                                               | B1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 7(a) B and H in either order                                                                                                                                                                                                                                                                                                                       | B2   | B1 for either B or H selected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7(b)(i) $\frac{42-30}{30} (\times 100)$ or $\frac{42}{30} (\times 100) - 1 (\times 100)$                                                                                                                                                                                                                                                           | M1   | Or full reverse method, e.g.<br><ul style="list-style-type: none"> <li>20% of £30 is <math>30 \div 5 = £6</math>,<br/>with either <math>6 \times 2 = (£)12</math> or <math>6 \times 7 = (£)42</math></li> <li>10% of £30 is <math>30 \div 10 = £3</math>,<br/>with either <math>3 \times 4 = (£)12</math> or <math>3 \times 14 = (£)42</math></li> </ul>                                                                                                                                                                         |
| 40 (%)                                                                                                                                                                                                                                                                                                                                             | A1   | Allow an answer of £40 from correct working<br><br>If no marks, award SC1 for an answer of 140(%)                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 7(b)(ii) (Percentage profit is) $\frac{9 \times 42 - 10 \times 30}{10 \times 30} (\times 100)$<br>or $\frac{9 \times 12 - 30}{10 \times 30} (\times 100)$<br>or $\frac{9 \times 42}{10 \times 30} (\times 100) - 1 (\times 100)$<br>or $\frac{378}{300} (\times 100) - 1 (\times 100)$<br>or $1.26 (\times 100) - 1 (\times 100)$<br>or equivalent | M2   | Allow a reverse method of finding percentages of 300<br>used, these percentages must be correct and when<br>added (or subtracted) <u>could</u> lead to an answer of 26%<br>e.g.<br>(2 × 10% =) 20% of 300 is 60 and 6% of 300 is 18<br><br>M1 for any one of the following:<br><ul style="list-style-type: none"> <li>(difference between sales and costs)<br/><math>9 \times 42 - 10 \times 30</math> (= 378 – 300)</li> <li>(sales) (£) 378 AND (cost) (£) 300</li> <li>(difference between sales and costs) (£) 78</li> </ul> |
| 26 (%) <b>AND</b> states 'profit'                                                                                                                                                                                                                                                                                                                  | A2   | Mark final answer<br>A1 for any one of the following:<br><ul style="list-style-type: none"> <li>26(%)</li> <li><math>\frac{78}{300} (\times 100)</math> or equivalent</li> <li><math>\frac{378}{300} \times 100 = 126</math> (%)</li> <li><math>\frac{378}{300} = 1.26</math></li> <li>(<u>'their 9×42' – 10 × 30</u>) × 100 correctly evaluated<br/><math>\frac{10 \times 30}{10 \times 30}</math><br/>and given as a percentage, allow if an error in the<br/>decimal part of their answer</li> </ul>                          |
| 7(b)(iii) 8                                                                                                                                                                                                                                                                                                                                        | B1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Unit 1: Intermediate Tier                                                                                                                                                                                                        | Mark     | Comments                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8(a)(i) $200 - 80$ or $90 + 30$<br>120 (customers)                                                                                                                                                                               | M1<br>A1 |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8(a)(ii) 32 seconds                                                                                                                                                                                                              | B1       |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8(a)(iii) $\frac{200-170}{200}$ or $\frac{30}{200}$ or $\frac{15}{100}$<br>$\frac{3}{20}$                                                                                                                                        | M1<br>A1 | Award M1 for 0.15 or 15%<br>Only ignore further working if written as 0.15 or 15%<br>If no marks, award SC1 for an answer of $\frac{17}{20}$ (from 40 seconds or less)                                                                                                                                                                                                                                                                 |
| 8(b)(i) 36                                                                                                                                                                                                                       | B1       |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8(b)(ii) $46 - 20$<br>26                                                                                                                                                                                                         | M1<br>A1 | Allow $20 - 46$                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8(c) 'No' unambiguously stated or implied<br>AND a reason, e.g.<br>'upper quartile is higher this year'<br>'75% reading higher this year'<br>'interval was 37 (or 38) to 50 seconds last year, this year it is 46 to 50 seconds' | E1       | Do not ignore incorrect values for the upper quartiles given, E0 if 'upper quartile' or '75%' stated with incorrect upper quartile readings<br><br>Allow 'No' with a reason, e.g.<br>'(last year) 38, (this year) 46'<br>'(last year) 37.(...), (this year) 46'<br><br>Do not accept, e.g.<br>'range greater this year'<br>'lower quartile is lower this year'<br>'median higher this year'<br>'customers still waiting at 50 seconds' |

| Unit 1: Intermediate Tier                                                                                                                                                                                                                                                                                                                                | Mark                                         | Comments                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9(a)(i) $1 \times 10^5$                                                                                                                                                                                                                                                                                                                                  | B1                                           |                                                                                                                                                                                                                                                                                                                                                                                         |
| 9(a)(ii) A suitable calculation, including an <u>appropriate</u> approximation, e.g.<br>$\frac{3\,100\,000}{21\,000} \text{ or } \frac{3\,100\,000}{20\,000} \text{ or } \frac{3\,000\,000}{20\,000} \text{ or } \frac{3\,000\,000}{21\,000}$ or equivalent<br><br>Answer in the range<br>142 (people/km <sup>2</sup> ) to 155 (people/km <sup>2</sup> ) | M2<br><br><br><br><br><br><br><br><br><br>A1 | Place value must be correct<br>Must include an approximation<br><br>M1 for the idea to divide (in the correct order), that may also include one place value error, e.g.<br>$\frac{3.1\,million}{20\,735}, \frac{31\,000\,000}{20\,000}, \frac{3\,100\,000}{20\,700}$<br><br>ISW. Allow 142.8, 142.9 and 143 rounded to 140<br>Accept equivalents, e.g. 150 written as $1.5 \times 10^2$ |
| 9(b) Idea that 360 000 is 120%<br><br>360 000 ÷ 1.2 or equivalent<br>300 000 (people)                                                                                                                                                                                                                                                                    | B1<br><br>M1<br>A1                           | Accept from sight of trial to increase 'their value' by 20% provided 'their value' <360 000<br><br>Award of M1 also implies previous B1                                                                                                                                                                                                                                                 |
| 9(c) (Length) $6.6 \div (4.2 \div 1.4)$ or $6.6 \div 3$<br>or equivalent<br>Length 2.2 (cm)<br><br>(Height) $4.2 \times (9.9 \div 6.6)$ or $4.2 \times 1.5$<br>or $1.4 \times (9.9 \div 2.2)$ or equivalent<br>Height 6.3 (cm)                                                                                                                           | M1<br><br>A1<br><br>M1<br><br>A1             | FT $1.4 \times (9.9 \div \text{'their derived length'})$<br><br>Note:<br>Length (from $9.9 - 6.6 =$ ) 3.3(cm) M0 A0<br>Height (from $1.4 \times (9.9 \div 3.3) =$ ) 4.2(cm) M1 A1 (FT)<br><br>Allow answers reversed in the answer space                                                                                                                                                |
| 9(c) <u>Alternative method</u><br>(Height) $4.2 \times (9.9 \div 6.6)$ or $4.2 \times 1.5$ or equivalent<br>Height 6.3 (cm)<br><br>(Length) $6.6 \div (4.2 \div 1.4)$ or $6.6 \div 3$<br>or $9.9 \div (6.3 \div 1.4)$ or equivalent<br>Length 2.2 (cm)                                                                                                   | M1<br><br>A1<br><br>M1<br><br>A1             | FT $9.9 \div (\text{'their derived height'} \div 1.4)$<br><br>Allow answers reversed in the answer space                                                                                                                                                                                                                                                                                |