## Highfield Functional Skills Qualification in Mathematics at Level 2 - MOCK PAPERCODE: FSQC209_MS_05112021

| Question | Total marks | Subject content | Process | Marker annotation | Accepted answer<br>AFT = allow follow through CAO = correct answer only |
|---|---|---|---|---|---|
| **1** | **1** | **5** | Calculate 23% percentage of the amount given | **1CA** | **CAO**<br>135.93 |
| **2** | **2** | | | **2CA** | **CAO**<br>**17.89%** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **5** | Method to calculate percent | **1a** | 68 ÷ 380 OE |
| | | **5** | Correct answer | **1b** | CAO<br>17.89(%) accept appropriate rounding e.g. 18%, 17.9%, etc. |
| **3** | **1** | **2** | Use a suitable strategy to check the answer to Q2 | **1CA** | **CAO**<br>Suitable checking strategy used and accurately applied<br>E.g. 380 ÷ 100 x 18 = 68.4 |
| **4** | **2** | | | **2CA** | **CAO**<br>**31.4** |
| | | | | | |
| | | **16** | Uses the correct method to calculate circumference of circle | **1a** | 2 x 3.14 x 5<br>*(allow any correct pi values)* |
| | | **16** | Finds the correct answer | **1b** | CAO<br>31.4 |
| **5** | **2** | | | **2CA** | **CAO**<br>**390** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **23** | Identifies the two middle values | **1a** | CAO<br>345 and 435 |
| | | **23** | Calculates the median | **1b** | CAO<br>390 |

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| **6** | **1** | **19** | Use coordinates to specify position | **1a** | **CAO**<br>-3, -6 |
| **7** | **1** | **12** | Follow the order of precedence to find value of n | **1CA** | **CAO**<br>2278 |
| **8** | **2** | | | **2CA** | **CAO**<br>**6.58 (mph)** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **15** | Method for calculating speed | **1a** | 15.8 ÷ 2.4 |
| | | **15** | Accurately calculate the speed | **1b** | CAO<br>6.58 (mph) |
| **9** | **2** | | | **2CA** | **CAO**<br>$\frac{\mathbf{2}}{\mathbf{7}}$ |
| | | **If the answer is incorrect revert to:** | | | |
| | | **8** | Express 18 out of 63 as a fraction | **1a** | CAO<br>$\frac{18}{63}$ |
| | | **8** | Simplify their identified fraction | **1b** | AFT<br>Correct simplification of their fraction<br>$(\frac{2}{7})$ |

<table>
<tr><td>10</td><td>5</td><td></td><td></td><td>5CA</td><td>CAO<br>3 correct values in table (120, 457 and 556) and 74% or appropriately rounded percentage</td></tr>
<tr><td></td><td></td><td colspan="4">If the answer is incorrect revert to:</td></tr>
<tr><td></td><td></td><td>2</td><td>Calculate two cells correctly</td><td>1a</td><td>CAO<br>Two cells correct<br><table><tr><th></th><th>Use contactless payments</th><th>Do not use contactless payments</th><th>Total</th></tr><tr><td>Aged 30 and under</td><td>951</td><td>446</td><td>1397</td></tr><tr><td>Aged over 30 years</td><td>337</td><td>120</td><td>457</td></tr><tr><td>Total</td><td>1288</td><td>566</td><td>1854</td></tr></table></td></tr>
<tr><td></td><td></td><td>2</td><td>Calculate all three cells correctly</td><td>1b</td><td>CAO<br>All three cells correct<br><table><tr><th></th><th>Use contactless payments</th><th>Do not use contactless payments</th><th>Total</th></tr><tr><td>Aged 30 and under</td><td>951</td><td>446</td><td>1397</td></tr><tr><td>Aged over 30 years</td><td>337</td><td>120</td><td>457</td></tr><tr><td>Total</td><td>1288</td><td>566</td><td>1854</td></tr></table></td></tr>
<tr><td></td><td></td><td>26</td><td>Selects the correct figures from the table</td><td>1c</td><td>AFT<br>337 ÷ (457)</td></tr>
<tr><td></td><td></td><td>26</td><td>Calculates the probability</td><td>1d</td><td>AFT<br>(0.737) OE<br>Accept correct rounding</td></tr>
<tr><td></td><td></td><td>27</td><td>Converts decimal to percentage</td><td>1e</td><td>AFT<br>74% accept appropriate rounding e.g. 73.7%</td></tr>
</table>

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| **11** | **6** | | | **6CA** | **CAO**<br>**31 minutes** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **2** | Calculates the total frequency | **1a** | CAO<br>44 |
| | | **24** | Calculates the mid-range | **1b** | CAO<br>5<br>15<br>25<br>35<br>45<br>55 |
| | | **24** | Calculates the mid-range x frequency | **1c** | AFT<br>30<br>120<br>50<br>525<br>405<br>220 |
| | | **24** | Addition of mid-range x frequency | **1d** | CAO<br>1350 |
| | | **24** | Divides their total by the frequency | **1e** | AFT<br>(1350) ÷ 44 |
| | | **24** | Calculate the mean, rounded to the nearest whole minute | **1f** | CAO<br>31 minutes |

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| **12** | **6** | | | **6CA** | **CAO**<br>**B and (£)40.50 or (£)1540.50 seen + correct calculations for A & C** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **3** | Method for calculating option A | **1a** | (0.08 x 182) x 3 |
| | | **3** | Total cost for option A | **1b** | CAO<br>(£)43.68 OR (£)1543.68 |
| | | **13** | Method for calculating option B | **1c** | (100 + 2.7) ÷ 100<br>1500 x 0.027 |
| | | **13** | Total cost for option B | **1d** | CAO<br>(£)1540.50 OR (£)40.50 |
| | | **6** | Total cost for option C | **1e** | CAO<br>(1500 x 0.005) x 6 AND<br>(£)45 OR (£)1545 seen |
| | | **6** | Cheapest options calculated | **1f** | CAO<br>B and (£)40.50 OR (£)1540.50 + correct calculations for A & C seen |

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| **13** | **5** | | | **5CA** | CAO<br>18 (.18)% | |
| | | **If the answer is incorrect revert to:** | | | | **Alternative method:** |
| | | **25** | Method to find mean of 2017 | **1a** | (900,000 + 750,000 + 550,000 + 550,000) ÷ 4 | (900,000 + 750,000 + 550,000 + 550,000) ÷ 4 = 687,500 |
| | | **25** | Method to find mean of 2018 | **1b** | (950,000 + 850,000 + 600,000 +850,000) ÷ 4 | Calculates differences between 2017 and 2018 figures:<br>50,000 100,000 50,000 300,000 (=500,000) |
| | | **25** | Both mean values correct | **1c** | CAO<br>687,500 AND 812,500 | Divides by 4<br>(500,000) ÷ 4 = 125,000 |
| | | **5** | Method to find % increase | **1d** | AFT<br>(812,500) – (687,500) = (125,000)<br>(125,000) ÷ (687,500) = (0.18 x 100) | |
| | | **13** | Correct value | **1e** | **CAO**<br>18(.18)% *(accept suitable rounding)* | |
| **14** | **6** | | | **6CA** | **CAO**<br>**(£)345.32** | |
| | | **If the answer is incorrect revert to:** | | | | |
| | | **10** | Calculation of wage use hourly rate (Monday - Friday) | **1a** | CAO<br>(7.5 x 5) x 8.90 OR 333.75 | |
| | | **4** | Convert Saturday rate | **1b** | CAO<br>4 x 1.25 OR 44.50 | |
| | | **10** | Calculates the wage for the Sunday hours | **1c** | CAO<br>(3 x 2) x 8.90 OR 53.40 | |
| | | **10** | Total wages before tax for all 7 days | **1d** | AFT<br>(431.65) | |
| | | **13** | Method to calculate 20% tax deduction | **1e** | AFT<br>(431.65) ÷ 100 x 20 = 86.33<br>(431.65) – 86.33 | |
| | | **13** | Finds correct answer | **1f** | CAO<br>(345.32) | |

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| **15** | **5** | | | **5CA** | **CAO**<br>**2137** ***(accept 2135-2139 for different variations of pi, if all methods are correct)*** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **16** | Correct formula for the area of a circle | **1a** | CAO<br>$\pi \times 5.5^2$ or 3.14 x 30.25 |
| | | **16** | Calculate the area of the circle | **1b** | CAO<br>94.985 *(accept answers based on different variations of pi, e.g. 95.0455, 95.0330975, etc.)* |
| | | **10** | Calculate the number of red flowers | **1c** | AFT<br>(94.985) x 30 |
| | | **11** | Method for calculating the number of red flowers | **1d** | AFT<br>(2849.55) ÷ 4 x 3 |
| | | **11** | Finds the correct number of red flowers | **1e** | CAO<br>2137 *(accept 2135-2139 for different variations of pi, if all methods are correct)* |
| **16a** | **6** | | | **6CA** | **CAO**<br>**3 correct volumes, Box A**<br>**Trolley and 29.8kg** |
| | | **If the answer is incorrect revert to:** | | | |
| | | **14** | Converts the height to cm or the width/length to m | **1a** | CAO<br>100cm 80cm 90cm OE |
| | | **17** | Calculates the volume of at least 1 box correctly | **1b** | CAO<br>A = 100,000($cm^3$) OR 0.1($m^3$)<br>B = 84,000($cm^3$) OR 0.0840($m^3$)<br>C = 95,760($cm^3$) OR 0.0957.6($m^3$) |
| | | **17** | Calculates the volume for all 3 boxes correctly | **1c** | CAO<br>A = 100,000($cm^3$) OR 0.1($m^3$)<br>B = 84,000($cm^3$) OR 0.0840($m^3$)<br>C = 95,760($cm^3$) OR 0.0957.6($m^3$) |
| | | **17** | Finds the box with the largest volume | **1d** | CAO<br>(Box A) |
| **16b** | | **10** | Method for calculating total possible weight | **1e** | 8 x 3.1 + 5 = 29.8 OE |
| | | **10** | Calculates the heaviest box and makes correct selection | **1f** | CAO<br>Trolley, heaviest box is B, total max weight of 29.8Kg OE |