**GCSE Mathematics (1MA1)**

**Themed papers – Recipes**

**Compiled from student-friendly mark schemes**

**Please note that this mark scheme is not the one used by examiners for making scripts. It is intended more as a guide to good practice, indicating where marks are given for correct answers. As such, it doesn’t show follow-through marks (marks that are awarded despite errors being made) or special cases.**

**It should also be noted that for many questions, there may be alternative methods of finding correct solutions that are not shown here – they will be covered in the formal mark scheme.**

**NOTES ON MARKING PRINCIPLES**

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| --- |
| **Guidance on the use of codes within this mark scheme** |
| M1 – method mark. This mark is generally given for an appropriate method in the context of the question. This mark is given for showing your working and may be awarded even if working is incorrect.  P1 – process mark. This mark is generally given for setting up an appropriate process to find a solution in the context of the question.  A1 – accuracy mark. This mark is generally given for a correct answer following correct working.  B1 – working mark. This mark is usually given when working and the answer cannot easily be separated.  C1 – communication mark. This mark is given for explaining your answer or giving a conclusion in context supported by your working.  Some questions require all working to be shown; in such questions, no marks will be given for an answer with no working (even if it is a correct answer). |

**Question 1 (Total 5 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part** | **Working or answer an examiner might expect to see** | **Mark** | **Notes** |
| (a) | For 15 biscuits:  Flour needed = 3 × 50 g = 150 g | P1 | This mark is given for a process to find the amount of flour needed for 15 biscuits |
| For 60 biscuits:  × 150 | P1 | This mark is given for a process to find the amount of flour needed for 60 biscuits |
| 600 | A1 | This mark is given for the correct answer only |
| (b) | For 15 biscuits:  Butter needed = 2 × 50 g = 100 g  For 60 biscuits:  × 100 = 400 | P1 | This mark is given for a process to find the amount of butter needed for 60 biscuits |
| = 1.6, so 2 packets needed | A1 | This mark is given for the correct answer only |

**Question 2 (Total 3 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part** | **Working or answer an examiner might expect to see** | **Mark** | **Notes** |
|  | 900 ÷ 225 = 4  1000 ÷ 110 = 9.091 (to 3 decimal places)  1000 ÷ 275 = 3.636 (to 3 decimal places)  225 ÷ 75 = 3 | P1 | This mark is given for a process to find the number of batches for at least three of the ingredients listed |
| 3 × 30 | P1 | This mark is given for a complete process to find the maximum number of cookies |
| 90 | A1 | This mark is given for the correct answer only supported by correct working |

**Question 3 (Total 3 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part** | **Working or answer an examiner might expect to see** | **Mark** | **Notes** |
|  | = 1.5 | 1 | This mark is given for a process to find how much to multiply by |
| 120 × 1.5, 140 × 1.5, 250 × 1.5, 2 × 1.5 | 1 | This mark is given for a method to scale up at least one ingredient |
| 180, 210, 375, 3 | 1 | This mark is given for the four correct answers only |

**Question 4 (Total 3 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part** | **Working or answer an examiner might expect to see** | **Mark** | **Notes** |
|  | 500 ÷ 175 = 2.857…  300 ÷ 75 = 4  625 ÷ 250 = 2.5 | P1 | These marks is given for a process to find the multiples of 16 biscuits which can be made with each ingredient |
| 2.5 × 16 | P1 | This mark is given for a process to find the greatest number of biscuits Anna can make |
| 40 | A1 | This mark is given for the correct answer only |

**Question 5 (Total 4 marks)**

| **Part** | **Working or answer an examiner might expect to see** | **Mark** | **Notes** |
| --- | --- | --- | --- |
| (a) | 300 ÷ 5 = 60  200 ÷ 2 = 100 | P1 | This mark is given for a start of a process to find solution |
| (60 × 5) + (60 × 2) | P1 | This mark is given for a complete process to find the greatest amount |
| 420 | A1 | This mark is given for the correct answer only |
| (b) | No, because Shahid uses only 120 m*l* of lemonade | C1 | This mark is given for a correct explanation |

**Question 6 (Total 3 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part** | **Working or answer an examiner might expect to see** | **Mark** | **Notes** |
|  | Cement: 10 bags × 25 kg = 250 kg  Sand: 20 bags × 22.5 kg = 4500 kg  Stone: 20 bags × 50 kg = 1000 kg | P1 | This mark is given for working out what Adrian already has |
| 80 kg of stone needed | P1 | This mark is given for working out what Adrian still needs |
| Two bags of stone | C1 | This mark is given for a correct conclusion supported by working |

**Performance data:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Q** | **Taken from** | | | **Total Marks available** | **TOPIC** | **Spec Ref** | **AO** | **% Mean marks** | **Edexcel mean averages Marks of candidates who achieved grade:** | | | | | | |
| **Q** | **Series** | **Paper** | **ALL** | **5** | **4** | **3** | **2** | **1** | **U** |
| 1a | 23a | Jun-19 | 1F | 3 | Ratio | N2, R10 | 3 | **75** | 2.25 | 2.92 | 2.79 | 2.49 | 1.87 | 1.04 | 0.4 |
| 1b | 23b | Jun-19 | 1F | 2 | Ratio | N2, R10 | 3 | **66** | 1.32 | 1.86 | 1.74 | 1.48 | 0.99 | 0.47 | 0.22 |
| 2 | 17 | Jun-18 | 2F | 3 | Ratio | R5 | 3 | **61** | 1.82 | 2.7 | 2.44 | 2 | 1.35 | 0.56 | 0.1 |
| 3 | 19 | Nov-17 | 1F | 3 | Ratio | R5, R10 | 1 | **61** | 1.82 | 2.65 | 2.31 | 1.89 | 1.26 | 0.9 | 0.57 |
| 4 | 19 | Nov-19 | 2F | 3 | Ratio | R10 | 3 | **58** | 1.74 | 2.33 | 2.03 | 1.76 | 1.31 | 0.83 | 0.58 |
| 5 | 15 | Nov-18 | 1F | 3 | Ratio | R5 | 3 | **21** | 0.64 | 1.39 | 0.82 | 0.65 | 0.41 | 0.25 | 0.11 |
| 6 | 17 | Nov-18 | 2F | 1 | Ratio | R5 | 3 | **6** | 0.06 | 0.3 | 0.08 | 0.05 | 0.03 | 0.03 | 0 |
|  |  |  |  | **21** |  |  |  |  | **9.65** | **14.15** | **12.21** | **10.32** | **7.22** | **4.08** | **1.98** |