Comparison of key skills specifications 2000/2002 with 2004 standardsX015461July 2004Issue 1

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Mark Scheme (Results)

November 2014

Pearson Edexcel GCSE

In Mathematics A (1MA0)

Foundation (Non-Calculator) Paper 1F

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**NOTES ON MARKING PRINCIPLES**

**1** All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

**2** Mark schemes should be applied positively.

**3** All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e if the answer matches the mark scheme. Note that in some cases a correct answer alone will not score marks unless supported by working; these situations are made clear in the mark scheme. Examiners should be prepared to award zero marks if the candidate’s response is not worthy of credit according to the mark scheme.

**4** Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

**5** Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

**6** Mark schemes will award marks for the quality of written communication (QWC).

The strands are as follows:

i) *ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear*

Comprehension and meaning is clear by using correct notation and labelling conventions.

ii*) select* *and use a form and style of writing appropriate to purpose and to complex subject matter*

Reasoning, explanation or argument is correct and appropriately structured to convey mathematical reasoning.

iii) *organise information clearly and coherently, using specialist vocabulary when appropriate*.

The mathematical methods and processes used are coherently and clearly organised and the appropriate mathematical vocabulary used.

**With working**

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.

If it is clear from the working that the “correct” answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.

If there is no answer on the answer line then check the working for an obvious answer.

Partial answers shown (usually indicated in the ms by brackets) can be awarded the method mark associated with it (implied).

Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks; transcription errors may also gain some credit. Send any such responses to review for the Team Leader to consider.

If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

**8** **Follow through marks**

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

**9** **Ignoring subsequent work**

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect cancelling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

**10** **Probability**

Probability answers must be given a fractions, percentages or decimals. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

**Linear equations**

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded (embedded answers).

**12 Parts of questions**

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

**13 Range of answers**

Unless otherwise stated, when an answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1)

**14** The detailed notes in the mark scheme, and in practice/training material for examiners, should be taken as precedents over the above notes.

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| **Guidance on the use of codes within this mark scheme** |
| M1 – method mark for appropriate method in the context of the question  A1 – accuracy mark  B1 – Working mark  C1 – communication mark  QWC – quality of written communication  oe – or equivalent  cao – correct answer only  ft – follow through  sc – special case  dep – dependent (on a previous mark or conclusion)  indep – independent  isw – ignore subsequent working |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| 1 | (a) |  | Lhotse | 1 | B1 cao |
|  | (b) |  | 8200 | 1 | B1 cao |
|  | (c) |  | Seven thousand  four hundred  and twenty-eight | 1 | B1 for any unambiguous answer |
|  | (d) |  | 8051 | 1 | B1 cao |
| 2 | (a) |  | 4,8,3,3,2 | 2 | M1 for at least 2 tallies or 2 frequencies correct  A1 for 5 correct frequencies |
|  | (b) |  | correct graph | 3 | M1 for bar chart or other suitable chart with at least 2 correct  frequencies drawn for their scale (ft from (a))  M1 for all bars labelled and vertical axis correctly scaled  A1 for accurately representing their data, with all labels,  ft from (a) |
| 3 | (a) |  | 56 000 | 1 | B1 cao |
|  | (b) |  | 276 | 1 | B1 cao |
|  | (c) |  | 6 | 1 | B1 cao |
|  | (d) |  | 29 | 1 | B1 cao |
|  | (e) |  | 13 | 1 | B1 cao |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| 4 |  |  | 3 | 3 | M1 for attempt to find number of bags needed  eg 254 ÷ 20 oe (= 12.7) **or**12 **or** 13  M1 (dep) for “254 ÷ 20” ÷ 5 oe (= 2.4)  A1 cao  **OR**  M1 for 5 × 20 (=100)  M1 (dep) for intention to find how many “100” in 254 (= 2.54)  A1 cao |
| 5 | (a) |  | B or C | 1 | B1 for B **or** C **or** B and C |
|  | (b) |  | G, E | 2 | B1 for G; B1 for E |
|  | (c) |  | Hexagon | 1 | B1 cao |
|  | (d) |  | Parallelogram | 1 | B1 cao |
| 6 | (a) |  | 3*m* | 1 | B1 cao |
|  | (b) |  | 7*e* | 1 | B1 cao |
|  | (c) |  | 15*g* | 1 | B1 cao |
| 7 | (a) |  | 31 | 2 | M1 for 3 × 5 + 2 × 8 **or** 15 and 16  A1 cao |
|  | (b) |  | 6*x* + 8*y* | 2 | M1 for 6*x* **or** 8*y*  A1 for 6*x* + 8*y* oe as final answer |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| \*8 |  | Tables-R-Us  120 + (120 + 2 × 40) = 320  Fred's Furniture  120 + (32 × 6) = 312  Tables 'n Chairs  120 + (3 × 70) = 330 | Fred's Furniture with working | 4 | M1 for correct method to find total cost of chairs (and table)  for at least one shop  M1 for correct method to find total cost of chairs (and table)  for at least two shops  A1 for 3 comparable totals (eg. chairs £200, £192, £210  **or** table and chairs £320, £312, £330)  C1 (dep on M1) ft for correct statement with shop name from  comparable figures |
| 9 |  |  | 48 | 2 | M1 for method to find 15% of 320  A1 cao |
| 10 | (a) |  | 5 | 1 | B1 cao |
|  | (b) |  | evens | 1 | B1 cao |
|  | (c) |  | oe | 2 | M1 for  where *a* < 6 **or**  where *b* > 2  A1 for  oe |
| 11 | \*(a) |  | No  with working | 2 | M1 for 19.5 + 22.8 (= 42.3) **or** 40 − 19.5 − 22.8 (= −2.3)  **or** 22 + 19 (= 41)  C1 for statement with No and 42.3 **or** ±2.3 **or** 41 seen |
|  | (b) |  | 12 40 | 3 | M1 for correct start eg. addition of two times  **or** subtraction of one time from 1430  M1 for a complete method  A1 for 12 40 (pm) |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| 12 |  |  | 126  or  176 | 4 | M1 for correct unit conversion of 2 m or 3 m or 20 cm  M1 for method to find number in width or number in length  **or** 14 or 9 or 16 or 11  M1 (dep on M1) for “number in length” × “number in width”  eg 14 × 9 eg 16 × 11  A1 for 126 or 176 |
| \*13 |  |  | Amsterdam  with figures | 3 | B1  for a correct conversion from miles to km or km to miles  eg 8 km = 5 miles eg 28 miles = 44 km  M1 for a correct method to convert 280 miles to km  or 500 km to miles  **or** 420 – 460 (km) **or** 300 − 320 (miles)  C1 (dep on M1) for statement with correct conclusion  and correct conversions (420 – 460 km  or  300 – 320 miles) |
| 14 |  |  | correct shape | 2 | M1 for at least 2 correctly enlarged sides  A1 for correct shape  **SC:** B1 for a fully correct enlargement scale factor 2 or 4 |
| 15 | (a) |  | 18 | 1 | B1 cao |
|  | (b) |  | 56 | 1 | B1 cao |
|  | (c) |  | 33 | 2 | M1 for 23 and 56 identified  A1 cao |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| \*16 |  |  | No with reason | 3 | M1 for 17, 20 .**or** + 3 **or** 3*n* + 2  M1 for method to show that 34 is not in the sequence  eg continue sequence to at least 32  eg attempt to solve 3*n* + 2 = 34  C1 (dep on M2) for statement with conclusion  eg No with 32, 35 shown  eg *n* = 32 ÷ 3 which is not a whole number |
| 17 |  |  | 700  cm3 | 3 | M1 for 20 × 5 × 7  A1 for 700  B1 (indep) for cm3 |
| 18 |  |  | 4 | 3 | B1 for 11.8 − 12.2 (cm) or 1180 − 1220 (km)  M1 for “12” × 100 ÷ 300 oe  A1 for 3.9 – 4.1 from correct figures  or ft from “12” × 100 ÷ 300 oe |
| 19 |  |  | 1340 | 4 | M1 for 500 × 4 (= 2000)  M1 for 960 – 300 (= 660) or “2000” + 300 (= 2300)  or “2000” – 960  (= 1040)  M1  (dep on M2) for a fully correct method  eg “2000” – “660” or “2300” – “960” or   “1040” + 300  A1  cao |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| 20 | (a) |  |  | 2 | M1 for  or equivalent fraction  A1 cao |
|  | (b) |  | 42 | 2 | M1 for 60 ÷ 12 (= 5) **or** 210 ÷ 60 (= 3.5) oe  A1 cao |
|  | (c) |  | not enough information | 1 | B1 for ‘not enough information' ticked **and** appropriate explanation  given |
| 21 |  |  | 25 | 4 | M1 for 600 ÷ 4 (= 150)  M1 for 4500 ÷ “150” (= 30)  M1 for 750 ÷ “30”  A1 for 25 with supporting working  **OR**  M1 for 4500 ÷ 750 (= 6)  M1 for 600 ÷ 4 (= 150) or 600 ÷ “6” (= 100)  M1 for “150” ÷ “6” or “100” ÷ 4  A1 for 25 with supporting working  **OR**  M1 for 4500 ÷ 750 (= 6) or 750 ÷ 4500 (= )  M1 for  M1 for  A1 for 25 with supporting working |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| \*22 |  |  | 130  + correct reasons | 4 | M1 for angle *BFG* = 65 (may be seen on diagram)  M1 (dep) for correct method to calculate *x*  eg (*x* = ) 65 + 65 (= 130)  **or** (*x* = ) 180 − (180 − 2 × 65) (= 130)    C2 for *x* =130 **and** full appropriate reasons related to method shown  (C1 (dep on M1) for any one appropriate reason related to  method shown)  eg alternate angles are equal ;  base angles in an isosceles triangle are equal;  angles in a triangle add up to 180°;  angles on a straight line add up to 180°;  exterior angle of triangle = sum of two interior opposite angles  co-interior angles (allied angles) add up to 180° |
| 23 | (a) |  | 2 reasons | 2 | B2 for two different reasons  (B1 for 1 reason)  eg No units (of distance)  eg Overlapping intervals (2 and/or 3 in two boxes)  eg Missing box (no box for more than 6 (km/miles)  or 'other' or 4.5 (km/miles)) |
|  | (b) |  | Question | 2 | B1 for a suitable question which includes a time frame  (time frame could appear with response boxes)  B1 for at least 3relevant non-overlapping **and** exhaustive  response boxes  [Do not allow inequalities in response boxes] |

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| **PAPER: 1MA0\_1F** | | | | | |
| **Question** | | **Working** | **Answer** | **Mark** | **Notes** |
| 24 | (a) |  | *e*(3*e* + 5) | 1 | B1 for *e*(3*e* + 5) |
|  | (b) |  | 4 | 3 | M1 for intention to expand brackets eg 7*k* − 21  **or** division of all terms on RHS by 7 as a first step  M1 for correct method to isolate terms in *k* in an equation  A1 cao |
|  | (c) |  | *a* = 2*f* − 1 | 2 | M1 for a correct first step  eg intention to multiply both sides by 2  A1 cao |
| 25 |  |  | 2 × 2 × 3 × 3 × 5 | 3 | M1 for continual prime factorisation (at least two consecutive steps  correct) **or** at least two stages of a factor tree correct  M1 for a fully correct factor tree **or** list 2, 2, 3, 3, 5  A1 for 2 × 2 × 3 × 3 × 5 or 22 × 32 × 5 |
| 26 |  |  | 9 | 4 | M1 for method to find the area of one rectangle  eg 15 × 8 (=120) or 15 × 11 (=165)  M1 (dep) for subtraction from/by given area  eg 138 − “120” (=18) or “165” – 138 (=27)  M1 for final step from complete method shown  eg 15 − "18"÷ 3 or for “27” ÷ 3  A1 cao  **OR**  M1 for a correct expression for the area of one rectangle  eg (8 + 3) × (15 − *x*) or 8 × *x*  M1 (dep) for a correct equation  eg (8 + 3) × (15 − *x*) + 8 × *x* = 138  M1 for correct method to isolate *x* eg 3*x* = 27  A1 cao |

**Modifications to the mark scheme for Modified Large Print (MLP) papers.**

Only mark scheme amendments are shown where the enlargement or modification of the paper requires a change in the mark scheme.

The following tolerances should be accepted on marking MLP papers, unless otherwise stated below:

Angles: ±5º

Measurements of length: ±5 mm

| **PAPER: 1MA0\_1F** | | | |
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| **Question** | | **Modification** | **Notes** |
| 1 |  | Take out Jannu |  |
| 2 |  | Table layout modified |  |
|  | (b) | 2 cm grid provided with 14 squares across and 12 squares up  Space on left and at the bottom for labeling |  |
| 5 |  | Shapes H and I removed |  |
| 7 |  | *a* changed to *e* |  |
|  |  | *c* changed to *f* |  |
| 10 |  | Spinner straightened up,● at centre to represent spike |  |
| 13 |  | 2 cm grid provided |  |
| 14 |  | 1½ cm grid provided  Enlargement given  Question reversed – ‘Describe fully the transformation that maps Shape A onto Shape B |  |
| **PAPER: 1MA0\_1F** | | | |
| **Question** | | **Modification** | **Notes** |
| 15 |  | Horizontal lines inserted to separate rows |  |
| 17 |  | Model provided |  |

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