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

**Mark Scheme**

Mock Set 2

Pearson Edexcel GCSE Mathematics (1MA1)

Foundation Tier (Calculator)

Paper 3F



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**General marking guidance**

These notes offer general guidance, but the specific notes for examiners appertaining to individual questions take precedence.

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

Where some judgement is required, mark schemes will provide the principles by which marks will be awarded; exemplification/indicative content will not be exhaustive. When examiners are in doubt regarding the application of the mark scheme to a candidate’s response, the response should be sent to review.

**2** All the marks on the mark scheme are designed to be awarded; mark schemes should be applied positively. Examiners should also be prepared to award zero marks if the candidate’s response is not worthy of credit according to the mark scheme. If there is a wrong answer (or no 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.

**Questions where working is not required**: In general, the correct answer should be given full marks.

**Questions that specifically require working**: In general, candidates who do not show working on this type of question will get no marks – full details will be given in the mark scheme for each individual question.

**3 Crossed out work**

This should be marked **unless** the candidate has replaced it with

an alternative response.

**4 Choice of method**

If there is a choice of methods shown, mark the method that leads to the answer given on the answer line.

If no answer appears on the answer line, mark both methods **then award the lower number of marks.**

**5** **Incorrect method**

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 for your Team Leader to check.

**6** **Follow through marks**

Follow through marks which involve a single stage calculation can be awarded without working as you can check the answer, 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.

**7** **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 or its context. (eg. an incorrectly cancelled fraction when the unsimplified fraction would gain full marks).

 It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect (eg. incorrect algebraic simplification).

**8** **Probability**

Probability answers must be given as a fraction, percentage or decimal. 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.

**9** **Linear equations**

Unless indicated otherwise in the mark scheme, full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously identified 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).

**10 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 all numbers within the range.

|  |
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| **Guidance on the use of abbreviations within this mark scheme** |
| **M** method mark awarded for a correct method or partial method**P** process mark awarded for a correct process as part of a problem solving question**A** accuracy mark (awarded after a correct method or process; if no method or process is seen then full marks for the question are implied but see individual mark schemes for more details)**C** communication mark**B** unconditional accuracy mark (no method needed)**oe** or equivalent**cao** correct answer only**ft** follow through (when appropriate as per mark scheme)**sc** special case**dep** dependent (on a previous mark)**indep** independent**awrt** answer which rounds to**isw** ignore subsequent working |

**Foundation tier Paper 3F (Calculator): Mock (Set 2) Mark Scheme**

| **Question** | **Working** | **Answer** | **Mark** | **Notes** |
| --- | --- | --- | --- | --- |
| 1 | (a) |  | Mark at  | B1 | Answer at  |
|  | (b) |  | Mark at  | B1 | Answer at  |
| 2 |  |  | 2750 | B1 | cao |
| 3 |  |  | DiameterRadiusChordTangent | B2 | for a fully correct answer |
|  |  |  | (B1) | for 2 or 3 correct answers |
| 4 |  |  | 65 and 130or53 and 106 | P1 | for 65 or 53 used |
|  |  |  | A1 | 65 and 130 or 53 and 106 |
| 5 | (a) |  | 3 | M1 | for expanding the bracket or the intention to divide both sides by 2 as the first step oe |
|  |  |  |  | A1 | cao |
|  | (b) |  | 4 | M1 | for an intention to subtract 7 from both sides or intention to divide both sides by 3 as the first step oe |
|  |  |  |  | A1 | cao |
|  | (c) |  | 2(3*n* – 2) | B1 | 2(3*n* – 2)oe |
|  | (d) |  | 4*cd* | B1 | 4*cd* |
| 6 | (a) |  | 3 | B1 | cao |
|  | (b) |  | 9 | M1 | for selecting 1 and 10  |
|  |  |  |  | A1 | cao |
|  | (c) |  |  | M1 | for finding the number of words 6 or longer, e.g. 3 + 4 + 5 + 2 + 1 |
|  |  |  |  | M1 | for a method to find the total number of words, e.g. 5 + 8 + 12 + 10 + 9 + 3 + 4 + 5 + 2 + 1  |
|  |  |  |  | A1 | cao |
| 7 |  |  | Statement | C2 | for a correct statement, e.g. both obtuse angles are greater than 90 (but less than 180) and angles in a triangle add up to 180 |
|  |  |  |  | (C1) | for a correct statement, e.g. obtuse angles are greater than 90 (but less than 180) or angles in a triangle add up to 180) |
| 8 | (a) |  | 14 | B1 | cao |
|  | (b) |  | 330,170 | P1 | for a correct first step, e.g. 500 – 160 or two integers that add to 500 or two integers (below 500) with a difference of 160  |
|  |  |  |  | P1 | for a complete process to find either *f* or *g* |
|  |  |  |  | A1 | for both values |
| 9 |  |  | 24,72 and 192 | M1 | for 288$ ÷ $(1 + 3 + 8) (= 24) |
|  |  |  |  | M1 | for a complete method to find the weight in the medium or the large box  |
|  |  |  |  | A1 | for 24, 72 and 192 |
| 10 |  |  | 35 | P1 | for start to process, e.g. 40 ÷ 4 × 3 (= 30) or 120 ÷ 40 (= 3) |
|  |  |  |  | P1 | (dep P1) for (40 − “30”) ÷ 2 (= 5) or “30” × 4.5 (= 135) or “30” × (4.5 – 3) |
|  |  |  |  | P1 | (dep P2) for process to find income, e.g. “30” × 4.5 (=135) and “5” × 4 (= 20) |
|  |  |  |  | P1 | for a complete process leading to profit, e.g. “135”+ “20”−120 |
|  |  |  |  | A1 | cao |
| 11 |  | 1 6 8 92 2 2 3 3 4 5 83 1 3 44 0 1 key 4|1 is 41 | Diagram | B2 | for a fully correct diagram |
|  |  |  | (B1) | for an ordered diagram with one error or omission or for an unordered diagram) |
|  |  |  | B1 | for an appropriate key |
| 12 |  |  | 15 | B1 | for a measurement given as 7.3 to 7.7 (cm)  |
|  |  |  |  | M1 | for “7.5” × 10$ ÷ $5 where “7.5” is their measurement |
|  |  |  |  | A1 | (dep M1) ft |
| 13 | (a) |  | 0.97 | P1 | for start to process, e.g. 1000 $ ÷ $129 oe or 7 packets |
|  |  |  |  | P1 | (dep P1) for 10 − (“7” × 1.29) where “7” is their number of packets |
|  |  |  |  | A1 | cao |
|  | (b) |  | Comment | C1 | comment, e.g. 28 is not a multiple of 6 |
| 14 |  |  | 70 | M1 | for method to find 3.5% of 400 , e.g. 0.035 × 400 (= 14) |
|  |  |  |  | M1 | (dep M1) for “14” × 5 (= 70) |
|  |  |  |  | A1 | cao |
|  |  |  |  |  | SCB2 for 470 or 330 if no other marks awarded |
| 15 |  |  | 38 | P1 | for a process to begin the problem, e.g. 90% of 17 or number of bags per week (= 510) |
|  |  |  |  | P1 | (dep P1) for a complete process to find the number of perfect bags per week e.g. “510” × 0.9 (= 459) |
|  |  |  |  | P1 | (dep P1) for dividing the number of perfect bags by 12, e.g. “459” ÷ 12 (= 38.25) |
|  |  |  |  | A1 | 38.25 or 38 given as the answer |
|  |  |  |  | C1 | ft For rounding their answer to a full number of boxes  |
| 16 |  |  | , 3 | M1 | for a correct method to eliminate one variable (condone one arithmetic error) |
|  |  |  |  | M1 | (dep) for substituting found value in one of the equations or correct method after starting again (condone one arithmetic error) |
|  |  |  |  | A1 | cao |
| 17 |  |  | 22 | P1 | process to use gradient, e.g.  = 4 |
|  |  |  |  | P1 | for a complete process to rearrange equation formed to isolate *d*  |
|  |  |  |  | A1 | cao |
| 18 |  |  | 24.6 | P1 | process to use conversion rate, e.g. 100 ÷ 1.38 (= 72.46(37.)) or 222 × 1.38 (= 306.36) |
|  |  |  |  | P1 | (dep P1) for complete process to find percentage required e.g. 72.46(37.) ÷ ( 72.46(37.) +222)×100 OR 100 ÷ (100 + 306.36) × 100 |
|  |  |  |  | A1 | for answer in range 24.6 – 24.61 |
| 19 | (a) |  | 4 | P1 | for process to find area of at least 2 different faces, e.g. 95 × 18 and 80 × 18 |
|  |  |  |  | P1 | for a complete process to find the surface area of one cushion, e.g. (95 × 18 + 80 × 18 + 95 × 80) × 2 |
|  |  |  |  | P1 | for process to convert units, e.g. 80$ ÷$ 100 (= 0.8) |
|  |  |  |  | P1 | (dep on P2) for their area multiplied by 6 and divided by 4 |
|  |  |  |  | A1 | cao |
|  | (b) |  | Reduces requirement | P1 | for showing 4.4 is now covered or 2.93 tins or 3 tins |
|  |  |  | C1 | (dep) Statement that the number required of tins will be reduced  |
| 20 | (a)(i) |  |  | B1 | cao |
|  | (ii) |  |  | M1 | for  oe or  oe |
|  |  |  |  | A1 | cao |
|  | (b) |  | Diagram | B1 | correct vector drawn |
| 21 | (a) |  | Graph drawn | M1 | for a line of gradient  drawn or at least 2 correct points plotted |
|  |  |  |  | C1 | for a fully correct graph drawn |
|  | (b) |  | 48 - 52 | B1 | for answer in the range 48 - 52 |
| 22 |  |  | 9 | M1 | for sin 30$°$ = $\frac{x}{18}$ or 18$ ×$ sin 30 |
|  |  |  |  | A1 | cao |
| 23 |  |  | 207.50 | M1 | for a first step to solve the problem, e.g. 42.5 ÷17 |
|  |  |  |  | M1 | for a complete method  |
|  |  |  |  | A1 | cao |
| 24 |  |  | 4 | B1 | cao |