Special Instructions

1 The main principle in marking scripts is to give credit for the skills which have been demonstrated. Failure to have the correct method may not preclude a pupil gaining credit for the calculations involved or for the communication of the answer.

Care should be taken to ensure that the mark for any question or part question is entered in the correct column, as indicated by the horizontal line.

Where a candidate has scored zero marks for any question attempted, "0" should be shown against the answer in the appropriate column.

It is of great importance that the utmost care should be exercised in adding up the marks. Where appropriate, all summations for totals and grand totals must be carefully checked.

2 The answer to one part, correct **or incorrect** must be accepted as a basis for subsequent dependent parts of a question. Full marks in the dependent part is possible if it is of equivalent difficulty.

3 Do not penalise insignificant errors. An insignificant error is one which is significantly below the level of attainment being assessed.

eg An error in the calculation of 16 + 15 would not be penalised at Credit Level.

4 Working after a correct answer should **only** be taken into account if it provides **firm** evidence that the requirements of the question have not been met.

5 In certain cases an error will ease subsequent working. **Full** credit cannot be given for this subsequent work but **partial** credit may be given.

6 Accept answers arrived at by inspection or mentally, where it is possible for the answer to have been so obtained.

7 Do not penalise omission or misuse of units unless marks have been specifically allocated to units.

8 A wrong answer without working receives no credit unless specifically mentioned in the marking scheme.

The rubric on the outside of the Papers emphasises that working must be shown. In general markers will only be able to give credit to partial answers if working is shown. However there may be a few questions where partially correct answers unsupported by working can still be given some credit. **Any such instances will be stated in the marking scheme.**

9 Acceptable alternative methods of solution can only be given the marks specified, ie a more sophisticated method cannot be given more marks.

Note that for some questions a method will be specified.

10 In general do not penalise the same error twice in the one question.

11 Accept legitimate variations in numerical/algebraic questions.

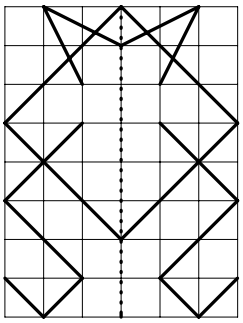
12 Do not penalise bad form eg $\sin x^0 = 0{\cdot}5 = 30^0$.

13 A transcription error is not normally penalised except where the question has been simplified as a result.

Mathematics Standard Grade - General Level 2004 – Paper 1

Marking Instructions

Award marks in whole numbers only.

Question No.	Solution	Mark	Comments
1 (a)	• 13.38	1 mark	
(b)	• 299.6	1 mark	
(c)	• 0.57	1 mark	
(d)	• $90 \div 100 \times 180$ or equivalent	1 mark	
	• = (£) 162	1 mark	
Notes In part (d) For correct final answer without working – award 2/2			
2	• $3 \div 7 = 0.4285\ldots$	1 mark	For correct calculation
	• = 0.43	1 mark	For rounding to 2 decimal places
Notes (i) For correct final answer without working – award 2/2 (ii) For answer of 2.33 with working – award 1/2, without working – award 0/2			
3		1 mark 1 mark 1 mark	For 3 lines correct For a further 2 lines correct For a further 3 lines correct leading to correct solution
4	• 181 300 000	1 mark	

Question No.	Solution	Mark	Comments
5	• Suitable scales on axes • Any 4 points correctly plotted • Further 2 points correctly plotted • Line graph completed	1 mark 1 mark 1 mark 1 mark	

Notes

(i) If a bar graph is drawn, the maximum available mark is 3/4, the final mark cannot be awarded

(ii) Disregard any line which extends the diagram

(iii) Where no scale is stated but scale can be inferred from the plotted points, the maximum mark available is 3/4, the first mark cannot be awarded

(iv) Final mark can be awarded if points are joined by a curve

6	• $^{9}/_{36}$ or equivalent • $^{1}/_{4}$	1 mark 1 mark	 For simplifying fraction

Notes

(i) For correct final answer without working – award 2/2
(ii) Accept variation in language eg 1 out of 4, 1 : 4, 0.25, 25%

7	• $\angle$ DGE = 21° • $\angle$ FGE = 57° • $\angle$ DGF = 78°	1 mark 1 mark 1 mark	

Notes

(i) Alternative strategy (eg in triangle GDF)

- 33° + 69° = 102° 1 mark within a valid strategy
- 180° – 102° 1 mark
- = 78° 1 mark

Evidence of a valid strategy, for example, using $\angle$ GFD written or marked as 33° to lead to 102°

(ii) Angles correctly marked on diagram may be accepted

(iii) For a correct final answer without working – award 2/3

Question No.	Solution	Mark	Comments
8	3498 3948 4938 9348 9438	1 mark 1 mark 1 mark	For 1 code correct For a further 2 codes correct For a further 2 codes correct
9	• 240/300 • 100 × 4/5 = 80 (g) (sugar) • 80 × 2 = 160 (g) (butter) • All calculations correct	1 mark 1 mark 1 mark 1 mark	Knowing to find an appropriate ratio Knowing to multiply above ratio by 100 or equivalent Knowing to double last answer or equivalent Must include the use of a ratio

Notes

(i) Example of an Alternative Strategy

- 100/300
- $240 \times 1/3$
  = 80 (g) (sugar)

(ii) Final Answers

80 (g) without working – award 1 mark
160 (g) without working – award 1 mark
40 (g) + 140 (g) with or without working – award 0/4

10	• 3 – (-5) or equivalent • = 8(°C)	1 mark 1 mark	 Correct calculation within a valid strategy

Notes

(i) Final answers with or without working

8(°C)	2/2
-8(°C)	1/2

(ii) The use of a number line from –5 to 3 is acceptable for the 1st mark

Question No.	Solution	Mark	Comments
11	• 2235 and 0105 • 2h 30 min	1 mark 1 mark	

Note

Final answers	with or without working
2 h 30 min	2/2
3 h 45 min (2120 → 0105)	1/2
7 h 35 min (2120 → 0455)	1/2
6 h 20 min (2235 → 0455)	1/2
1 day 2 h 30 min	1/2

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[END OF PAPER 1 MARKING INSTRUCTIONS]

Mathematics Standard Grade - General Level 2004 – Paper 2

Marking Instructions

Question No.	Solution	Mark	Comments
1	• $55/100 \times 360°$ • $= 198(°)$	1 mark 1 mark	
Note For correct final answer without working – award 2/2.			
2 (a)	• fx(399, 754, 1239, 1440, 1159, 744, 252) • Mean = $5987 \div 100$ • $= 59.87$	1 mark 1 mark 1 mark	 For correct division of total $(\sum fx)$
(b)	• Yes with reason	1 mark	Must refer to mean, median or mode
Notes (i) An answer of 60 in part (a) must be supported by appropriate working in order to obtain full marks eg fx column of table correct followed by 60 without working – award 1/3 (ie 1st mark only) (ii) An incorrect answer in part (a) may be used to gain the mark in part (b).			
3	• $V = \pi r^2 h$ • $= 3.14 \times 3^2 \times 25$ • $= 706.5(cm^3)$	1 mark 1 mark 1 mark	For correct strategy For correct substitution For calculation correct

Notes

Final Answers	with working	without working
$706 \cdot 5\ (cm^3)$	3/3	2/3
$1413\ (cm^3)\ (2\pi r^2 h)$	2/3	0/3
$527 \cdot 5\ (cm^2)$ (surface area)	2/3	0/3

(i) Accept variations in the value of π
(ii) Disregard premature or incorrect rounding
(iii) Candidates whose strategy is to find surface area can only obtain 2nd and 3rd marks
(iv) For 3rd mark, calculation must include multiplying by π and squaring

Question No.	Solution	Mark	Comments
4 (a)	• $3x$	1 mark	
	• 21	1 mark	
	• $x = 7$	1 mark	
(b)	• 4 ( )	1 mark	
	• 4 (3 + 2p)	1 mark	For 3 + 2p
Notes (i) In part (a) for $x = 7$ without working – award 0/3 (ii) In part (b) for an answer of 2 (6 + 4p) – award 1/2			
5	• $PQ^2 = 12^2 + 5.5^2$	1 mark	Knows to use Pythagoras
	• = 174.25	1 mark	Correct form of Pythagoras
	• PQ = 13.2(cm)	1 mark	Knows to find square root of above
	• Radius = 6.6(cm)	1 mark	Knows to find radius and all calculations correct

Note

Final Answers	with working	without working
6 · 6 (cm)	4/4	3/4
13 · 2 (cm)	3/4	2/4
5 · 3 … (cm) (incorrect use of Pythagoras)	3/4	0/4
10 · 6 … (cm) (incorrect use of Pythagoras)	2/4	0/4

Question No.	Solution	Mark	Comments
6	• Adjacent = 3 cm	1 mark	Knows to use right angled triangle
	• Tan $x° = {}^4/_3$	1 mark	For a valid trig ratio
	• Tan $x° = 1.333$ or $x = \text{Tan}^{-1}(4/3)$	1 mark	
	• $x° = 53.1°$	1 mark	All calculations correct

Notes

Final Answers	with working	without working
53.1(°)	4/4	2/4
0.927 [RAD]	4/4	2/4
59.03 [GRAD]	4/4	0/4 (Angle measures to approx 60°)

(i) If the trig ratio used is not from the 3, 4, 5 triangle then the 3rd mark cannot be awarded
(ii) Credit should be given where a more laborious method is used

7	(a)	• 500 × 1.51	1 mark	
		• 755 (Euros)	1 mark	For correct calculation
	(b)	• 100 ÷ 1.51	1 mark	Knows to divide by 1.51
		• (100 ÷ 1.51) × 2.33	1 mark	Knows to multiply by 2.33
		• 154(.30) (Sw.Fr.)	1 mark	All calculations correct, must include a multiplication and division

Notes

(i) In part (a) if 500 is divided by 1.51 leading to an answer of (£)331 with or without working – award 1/2 (ie 2nd mark)
(ii) In part (a) for correct answer without working – award 2/2
(iii) In part (b)

Final Answers	with working	without working
154(.30) (Sw.Fr.)	3/3	2/3
64(.81) (Sw.Fr.) (100 ÷ 2.33 × 1.51)	2/3	0/3
233 (Sw.Fr.) (100 × 2.33)	1/3	0/3
66(.23) (Sw.Fr.) (100 ÷ 1.51)	1/3	1/3

Question No.	Solution	Mark	Comments
8	• $2.2 \times 1.5 = 3.3$ • $\frac{1}{2}\pi r^2$ • $= 0.5 \times 3.14 \times 1.1^2 = 1.9$ • $3.3 + 1.90 = 5.2(m^2)$	1 mark 1 mark 1 mark 1 mark	 Calculation must include squaring

Notes

For a candidate who calculates the perimeter – maximum mark available 2/4

Final Answers	with working	without working
$5.2(m^2)$	4/4	0/4 (because $2.2 + 2 \times 1.5 = 5.2$)
$10.89(m^2)$ $(\frac{1}{2}\pi d^2)$	3/4	0/4
$7.1(m^2)$ (πr^2)	3/4	0/4
$18.5(m^2)$ (πd^2)	2/4	0/4
8.7 (m) (Perimeter)	2/4	0/4
$3.3\ (m^2)$	1/4	1/4

9	• 75 + 8.75 = 83.75 • 98.25 – 83.75 = (£)14.50 • Sports channels	1 mark 1 mark 1 mark	or equivalent strategy for correct calculation Reason must include a reference to the calculation

Note

For correct answer without working – award 0/3

10	(a)	• (£)805	1 mark	
	(b)	• $14 \times 4.95 = (£)69.3(0)$	1 mark	
	(c)	• $0.2 \times 874.30 = 174.86$	1 mark	Correct % calculation
		• $874.30 – 174.86 = (£)699.44$	1 mark	Correct final answer

Notes

In part (c) for a correct answer without working – award 2/2

Question No.	Solution	Mark	Comments
11 (a)	• 1850 ÷ 8.5 = 217.65	1 mark	
	• 217.65 × 76.9 = (£)167.37	1 mark	for correct money statement
(b)	• 1850 ÷ 7.8 × 38.9 = (£)92.26	1 mark	
	• 167.37 – 92.26 = (£)75.11	1 mark	for correct money statement
(c)	• 800 ÷ 75.11	1 mark	for knowing to divide 800 by answer to (b)
	• = 10.65 or 11 months	1 mark	for correct final answer

Notes

Final answers with or without working

	(a)		(b)		(c)	
1850 ÷ 8.5 × 76.9	£167.37	2/2	92.26 75.11	2/2	11 * see note (iii)	2/2
	£16737.06	1/2	9226.28 7510.78	2/2	-	0/2
1850 ÷ 76.9 × 8.5	£2.04	1/2	3.71 -1.67	2/2	-	0/2
	£204.49	0/2	370.95 -166.46	2/2	-	0/2
1850 × 8.5 × 76.9	£12092.52	1/2	5613.27 6479.25	2/2	-	0/2
	£1209252.50	0/2	561327 647925.50	2/2	-	0/2

(i) Accept variations in answers caused by rounding
(ii) Accept answers given in pence
(iii) Answer to 11 (c) must be consistent with that of 11 (b) when no working shown
(iv) In part (c) if working is trivial full credit cannot be given

12	• 850/240	1 mark	
	• = 3.54	1 mark	
	• so a 5 amp fuse is required	1 mark	

Note

For correct answer without working – award 0/3

Question No.	Solution	Mark	Comments
13	• One point equidistant from both buoys	1 mark	Point clearly marked or a course drawn passing through the mid-point between the buoys. (± 2mm)
	• Series of dots or line drawn equidistant between buoys	1 mark	Course perpendicular to line between buoys. (±5°)
Note For a line drawn joining the two buoys only – award 0/2			

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FINAL TOTALS	38	42

[END OF PAPER 2 MARKING INSTRUCTIONS]