

GCSE Mathematics (1MA1) – Aiming for 4 Paper 2F(A) (Set 4)

Spring 2022 student-friendly mark scheme

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

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 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$2500 - 940 = 1560$	P1	This mark is given for a process to find the amount of flour in bags A and B
	$1560 \div 2$	P1	This mark is given for a process to find the amount of flour in bag C
	780	A1	This mark is given for the correct answer only

Question 2 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\frac{31}{100}$	B1	This mark is given for the correct answer only

Question 3 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	25	B1	This mark is given for the correct answer only

Question 4 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	25	B1	This mark is given for the correct answer (in the range 24 to 26)
(b)	$40 \div 10 \times 6$	M1	This mark is given for a method to substitute into the rule
	24	A1	This mark is given for the correct answer only
(c)	For example: the two answers are quite close or answer to (b) is less than answer to (a) the rule gives a smaller answer	C1	This mark is given for a correct comparison stated

Question 5 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	0.12, 0.21, 1.02, 1.20	B1	This mark is given for the correct answer only

Question 6 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$m = 36 \div 3 = 12$	B1	This mark is given for the correct answer only
(b)	$x = 7 - 3 = 4$	B1	This mark is given for the correct answer only

Question 7 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	15	B1	This mark is given for reading the correct answer from the graph
(b)	36×15	M1	This mark is given for a method to find the total Nazima is paid
	540	A1	This mark is given for the correct answer only

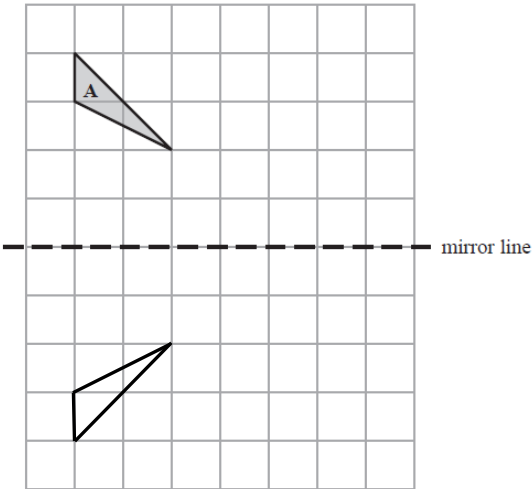
Question 8 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\frac{17}{30}$	A1	This mark is given for the correct answer only (or any equivalent fraction)

Question 9 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$\frac{13.82}{4.06} = 3.4039409\dots$	M1	This mark is given for method to find a value for $13.82 \div 4.06$
	$\sqrt{3.4039409\dots} = 1.8449772\dots$	A1	This mark is given for the correct answer only
(b)	1.84	B1	This mark is given for the correct answer only

Question 10 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
		B1	This mark is given for a correct reflection of the shape in any line or a correct reflection of at least one vertex
		B1	This mark is given for a fully correct reflection

Question 11 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	300	B1	This mark is given for the correct answer only

Question 12 (Total 5 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$30 \times \frac{8}{2} = 120$	P1	This mark is given for a process to find the number of oranges needed to make 8 litres
	$\frac{120}{24} =$	P1	This mark is given for a process to find the number of boxes oranges needed to make 8 litres
	5	A1	This mark is given for the correct answer only
(b)	For example: 1260 : 280 126 : 28 (dividing by 10) 63 : 14 (dividing by 2)	M1	This mark is given for a process to find the ration in its simplest form
	9 : 2	A1	This mark is given for the correct answer only

Question 13 (Total 3 marks)

Part	Working an or answer examiner might expect to see	Mark	Notes
	$4725 \div 28 = 152.67857\dots$ 152 bags	P1	This mark is given for a process to find out the number of bags that can be filled
	$152 \times 28 = 4256$	P1	This mark is given for a process to find out how many sweets are used
	$4725 - 4256 = 19$	A1	This mark is given for the correct answer only

Question 14 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$T = (3 \times 5) + (4 \times -7)$ $= 15 - 28$	M1	This mark is given for a method to substitute values to find T
	$T = -13$	A1	This mark is given for the correct answer only
	$38 = (3 \times 6) + (4 \times y)$ $y = \frac{38 - 18}{4}$	M1	This mark is given for a method to substitute values and rearrange to find y
	$y = 5$	A1	This mark is given for the correct answer only

Question 15 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\text{Rachel's share} = 600 \times \frac{2}{5} = 240$	P1	This mark is given for a process to find Rachel's share
	$\text{Samina's share} = \frac{1}{4} \times (600 - 240) = 90$	P1	This mark is given for a process to find Samina's share
	$\text{Tom's share} = 600 - 240 - 90 = 270$ <p>If shared equally, each share = 200</p>	P1	This mark is given for a process to find Tom's share and a comparison with equal shares
	No, Tom is not correct	C1	This mark is given for a correct conclusion supported by correct working

Question 16 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	For example: 0.625, 0.666..., 0.444..., 0.6	M1	This mark is given for a method to write the fractions in order of size
	$\frac{4}{9}, \frac{3}{5}, \frac{5}{8}, \frac{2}{3}$	A1	This mark is given for the correct answer only

Aiming for 4 - Paper 2F(A)		Edexcel averages: mean scores of students who achieved grade									
Qn	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
1	Apply four operations	2.70	3	90	2.70	2.96	2.96	2.89	2.65	1.97	0.96
2	Percentages and problems involving percentage change	0.88	1	88	0.88	0.98	0.97	0.94	0.86	0.67	0.36
3	Percentages and problems involving percentage change	0.83	1	83	0.83	0.96	0.94	0.89	0.73	0.52	0.29
4	Change between standard units and compound units	3.31	4	83	3.31	3.64	3.53	3.39	3.15	2.55	1.64
5	Order numbers	0.82	1	82	0.82	0.96	0.91	0.84	0.78	0.73	0.65
6	Solve linear equations	1.62	2	81	1.62	1.76	1.70	1.68	1.58	1.30	0.80
7	Solve problems involving direct and inverse proportion	2.39	3	80	2.39	2.92	2.80	2.61	2.24	1.66	0.82
8	One quantity as a fraction of another	0.77	1	77	0.77	0.90	0.90	0.83	0.72	0.56	0.33
9	Rounding; Inequality notation to specify error interval	2.29	3	76	2.29	2.82	2.67	2.47	2.14	1.67	0.86
10	Transformations	1.39	2	70	1.39	1.84	1.68	1.50	1.27	0.98	0.56
11	Change between standard units and compound units	0.65	1	65	0.65	0.93	0.81	0.70	0.58	0.46	0.27
12	Ratio notation, reduction to simplest form	3.12	5	62	3.12	4.45	4.07	3.33	2.29	1.23	0.61
13	Apply four operations	1.85	3	62	1.85	2.61	2.30	1.97	1.45	0.89	0.40
14	Solve linear equations	2.27	4	57	2.27	3.57	3.14	2.48	1.45	0.59	0.23
15	Calculate exactly with fractions	2.17	4	54	2.17	3.47	3.23	2.65	1.60	0.79	0.33
16	Conversion between fractions, decimals and percentages	1.04	2	52	1.04	1.74	1.42	1.14	0.89	0.64	0.27
		28.10	40	70	28.10	36.51	34.03	30.31	24.38	17.21	9.38

Aiming for 4 – Set 4 (A) (Spring 2022)

Suggested grade boundaries

	Max	5	4	3	2	1
1F(A)	40	34	31	26	21	16
2F(A)	40	33	32	27	21	13
3F(A)	40	34	31	27	21	14
Total	120	101	94	80	63	43

Grade boundaries are based on the average performance data for students answering these questions who gained grades 1-5 in the November 2020 & 2021 GCSE Mathematics examinations at Foundation tier.

Students did not answer these questions as 45-minute tests, of course; so there is some scope for adjustment. These boundaries are for guidance only.