

GCSE Mathematics (1MA1) – Achieving a Grade 2 3F

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 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$08\ 45 - 08\ 30 = 15$	B1	This mark is given for the correct answer only
(b)	<p>4.6</p>	B1	This mark is given for correct answer in the range 4.4 to 4.8

Question 2 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\frac{1}{4} \times 208 = 52$ large bars $52 \times \text{£}1 = \text{£}52$	P1	This mark is given for a process to work out the total value of the large bars
	$\frac{3}{4} \times 208$ (or $208 - 52$) = 156 small bars $156 \times \text{£}0.6 = \text{£}93.60$	P1	This mark is given for a process to work out the total value of the small bars
	$52 + 93.60 = 145.60$	A1	This mark is given for the correct answer only

Question 3 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	7	B1	This mark is given for the correct answer only
(b)	$9 - 4 = 5$	B1	This mark is given for the correct answer only

Question 4 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	0.408, 0.41, 0.46, 0.5	B1	This mark is given for the correct answer only

Question 5 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$360 - 120 - 120 - 80 = 40$	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
(i)	For example: 11, 10 or 9, 6	B1	This mark is given for a two correct terms stated
(ii)	For example: The difference goes down by 1 each time Take away 4, then 3, then 2, then 1 Take away 4, then 3, then 4, then 3...	C1	This mark is given for a correct explanation stated

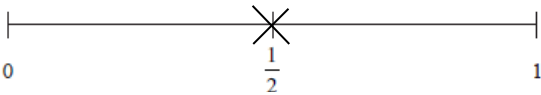
Question 7 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$8 \times 5 \times 4$	M1	This mark is given for a method to find the volume of the cuboid
	160	P1	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
	For example: All terms in the sequence end in 3 or 8 48 and 53 are two consecutive terms in the sequence $5n - 2 = 50$ would mean n is not a whole number	C1	This mark is given for a correct explanation

Question 9 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)		B1	This mark is given for a cross placed at $\frac{1}{2}$
(b)	$\frac{5}{8}$	M1	This mark is given for $\frac{5}{a}$ where $a > 5$ or $\frac{b}{8}$ where $b < 8$
		A1	This mark is given for the correct answer only (or equivalent)

Question 10 (Total 1 mark)

Part	Working or answer examiner might expect to see	Mark	Notes
	For example: The angles of a triangle add up to 180, not 190	C1	This mark is given for a correct explanation

Question 11 (Total 3 marks)

Part	Working or answer examiner might expect to see	Mark	Notes
	$AB = 4.4 \times 150 = 660$ $BC = 3.5 \times 150 = 525$ $AC = 6.2 \times 150 = 930$	M1	This mark is given for a method to measure and convert at least one line to a distance in metres (accept answers in the ranges 630–690, 495–555 and 900–960 respectively)
	$660 + 525 = 1185$ $1185 - 930 =$	M1	This mark is given for a method to find out the difference between how far Parveen walks and Susan walks
	255	A1	This mark is given for a fully correct table

Question 12 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\frac{60}{1000}$	M1	This mark is given for a method to find a correct fraction
	$\frac{3}{50}$	A1	This mark is given for the correct answer only

Question 13 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	Amol has n sweets Gemma has $6n$ sweets Harry has $3n$ sweets	M1	This mark is given for to represent the number of sweets each person has algebraically
	1 : 6 : 3	A1	This mark is given for the correct answer only

Question 14 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
		B1	This mark is given for 0.7 on the first branch
		B1	This mark is given for 0.65 and 0.65 on the second branches

Question 15 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes																				
	<table border="1"> <thead> <tr> <th></th> <th>F</th> <th>S</th> <th>G</th> <th>Total</th> </tr> </thead> <tbody> <tr> <th>Girls</th> <td></td> <td></td> <td>18</td> <td>110</td> </tr> <tr> <th>Boys</th> <td>60</td> <td></td> <td></td> <td>90</td> </tr> <tr> <th>Total</th> <td>104</td> <td>70</td> <td></td> <td>200</td> </tr> </tbody> </table>		F	S	G	Total	Girls			18	110	Boys	60			90	Total	104	70		200	P1	This mark is given for a process to add the information given into a two-way table
	F	S	G	Total																			
Girls			18	110																			
Boys	60			90																			
Total	104	70		200																			
	<table border="1"> <thead> <tr> <th></th> <th>F</th> <th>S</th> <th>G</th> <th>Total</th> </tr> </thead> <tbody> <tr> <th>Girls</th> <td></td> <td></td> <td>18</td> <td>110</td> </tr> <tr> <th>Boys</th> <td>60</td> <td>22</td> <td>8</td> <td>90</td> </tr> <tr> <th>Total</th> <td>104</td> <td>70</td> <td>26</td> <td>200</td> </tr> </tbody> </table> <p> $200 - 104 - 70 = 26$ $26 - 18 = 8$ </p>		F	S	G	Total	Girls			18	110	Boys	60	22	8	90	Total	104	70	26	200	P1	This mark is given for a process to use the information in the table to find out how many students chose German
	F	S	G	Total																			
Girls			18	110																			
Boys	60	22	8	90																			
Total	104	70	26	200																			
	$90 - 60 - 8 = 22$	A1	This mark is given for the correct answer only																				

Question 16 (Total 1 mark)

Part	Working or answer an examiner might expect to see	Mark	Notes
	For example: Rob should have divided by 8	A1	This mark is given for a valid description of the error in Rob's working

Question 17 (Total 1 mark)

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

1MA1 – Aiming for Grade 2 3F

Edexcel averages: mean scores of students who achieved grade

Qn	Skill tested	Mean score	Max score	Mean %	Edexcel averages: mean scores of students who achieved grade						
					ALL	5	4	3	2	1	U
1	Distance-time graphs, velocity-time graphs	0.78	1	78	0.78	0.92	0.89	0.81	0.69	0.47	0.23
	Distance-time graphs	0.63	1	63	0.63	0.88	0.77	0.66	0.51	0.32	0.16
2	Apply four operations	2.35	3	78	2.35	2.66	2.69	2.52	2.00	0.96	0.41
3	Median	0.74	1	74	0.74	0.92	0.86	0.78	0.66	0.50	0.31
	Range	0.72	1	72	0.72	0.98	0.93	0.79	0.56	0.27	0.07
4	Order numbers	0.76	1	76	0.76	0.99	0.90	0.79	0.63	0.41	0.25
5	Properties of angles	0.73	1	73	0.73	0.94	0.84	0.77	0.63	0.38	0.13
6	Non-linear sequences	0.84	1	84	0.84	0.92	0.91	0.86	0.79	0.61	0.35
	Non-linear sequences	0.67	1	67	0.67	0.75	0.75	0.69	0.61	0.45	0.22
7	Volume of cuboids	1.44	2	72	1.44	1.95	1.76	1.47	1.18	0.84	0.44
8	Linear sequences of diagrams and numbers	0.64	1	64	0.64	0.79	0.74	0.68	0.59	0.38	0.11
9	Probability Scale	0.62	1	62	0.62	0.83	0.73	0.63	0.52	0.40	0.20
	Probability Scale	1.43	2	72	1.43	1.93	1.82	1.59	1.18	0.56	0.11
10	Properties of angles	0.68	1	68	0.68	0.91	0.79	0.70	0.58	0.37	0.15
11	Scale diagrams and maps	2.07	3	69	2.07	2.79	2.61	2.27	1.71	0.83	0.18
12	One quantity as a fraction of another	1.39	2	70	1.39	1.89	1.78	1.54	1.09	0.57	0.21
13	Ratio notation	1.40	2	70	1.40	1.91	1.74	1.49	1.08	0.59	0.24
14	Probability Tree Diagrams	1.44	2	72	1.44	1.91	1.79	1.57	1.06	0.35	0.13
15	Two-way tables	1.91	3	64	1.91	2.74	2.37	2.00	1.46	0.92	0.46
16	Ratio in real context	0.63	1	63	0.63	0.90	0.81	0.67	0.47	0.26	0.08
17	Properties of 3D shapes	0.54	1	54	0.54	0.75	0.64	0.54	0.45	0.33	0.18
		22.41	32.00	70	22.41	29.26	27.12	23.82	18.45	10.77	4.62