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

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
	100×2 or 90×2 or 100×1.63 or 100×1.5 or 90×1.5 or 92×1.5	M1	This mark is given for rounding one figure appropriately (for example rounding 92 to 90 or 100 or rounding 1.63 to 2 or 1.5)
	200 or 180 or 163 or 150 or 135 or 138	A1	This mark is given for a correct estimate only

Question 2 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\frac{1}{6} \times 120$ minutes = 20 minutes	P1	This mark is given for a process to find how long Elena used the swimming pool for
	0.2×120 minutes = 24 minutes	P1	This mark is given for a process to find how long Elena used the gym for
	$120 - 50 - 20 - 24$	P1	This mark is given for a process to find how long Elena spent in the cafe
	26	A1	This mark is given for the correct answer only

Question 3 (Total 4 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$\frac{5}{12} + \frac{2}{12}$	M1	
	$\frac{7}{12}$	A1	This mark is given for a correct answer only (or an equivalent fraction)
(b)	$\frac{3 \times 5}{10 \times 8} = \frac{15}{80}$ or $\frac{3 \times 1}{2 \times 8}$	M1	This mark is given for a method to multiply fractions or a method to simplify the calculation
	$\frac{3}{16}$	A1	This mark is given for a correct and fully simplified answer only

Question 4 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$54 \times 1\frac{1}{2}$	M1	This mark is given for a method to find the distance
	81	A1	This mark is given for the correct answer only

Question 5 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$4n = 24$ $n = 24 \div 4$	M1	This mark is given for a method to find the value of n
	6	A1	This mark is given for the correct answer only

Question 6 (Total 2 marks)

Part	Working an or answer examiner might expect to see	Mark	Notes
	280 – 200 = 80 90 + 110 = 200	P1	This mark is given for a process to find the number of children and the total number of men and women from the graph
	80 : 200 (or equivalent, for example 8 : 20)	A1	This mark is given for a correct answer only

Question 7 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	2, 2, 31	M1	This mark is given for a complete method to find the prime factors (for example, using a factor tree with no more than one error)
	$2 \times 2 \times 31$	A1	This mark is given for a correct answer (or equivalent)

Question 8 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	For example: $250 \times 2 \rightarrow 125 \times 2 \rightarrow 25 \times 5 \rightarrow 5 \times 5$	M1	This mark is given for a complete method to find the prime factors (could be shown on a factor tree)
	$2 \times 2 \times 5 \times 5 \times 5$	M1	This mark is given for a method to find a complete factorisation
	$2^2 \times 5^3$	A1	This mark is given for the correct answer only

Question 9 (Total 5 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$1 - \frac{30}{100}$	M1	This mark is given for a method to find the probability the counter is **not** blue
	$\frac{70}{100}$	A1	This mark is given for a correct answer only
(b)	$30 \div 2 = 15$ $3 \times 15 =$	P1	This mark is given for a process to find the number of green counters
	45	A1	This mark is given for the correct answer only
(c)	Bradley is not correct For example: the total number of red and yellow counters is 25 which cannot be divided to give two equal whole numbers	C1	This mark is given for a valid answer supported by correct working

Question 10 (Total 1 mark)

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

Question 11 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$\frac{10\,000}{2 \times 4}$	P1	This mark is given for a process to use the area of the base in the formula
	1250	A1	This mark is given for the correct answer only

Question 12 (Total 2 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	For example: $4 \times 32 = 128$	M1	This mark is given for the digits 128 seen
	0.00128	A1	This mark is given for the correct answer only

1MA1 – Aiming for Grade 3 1F					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	Approximation and estimation	1.20	2	60	1.20	1.89	1.74	1.36	0.73	0.22	0.07
2	Fractions, percentages in context	2.44	4	61	2.44	3.74	3.33	2.63	1.57	0.90	0.79
3a	Fraction addition	1.22	2	61	1.22	1.92	1.73	1.31	0.80	0.35	0.11
3b	Fraction multiplication	1.06	2	53	1.06	1.73	1.40	1.02	0.72	0.54	0.40
4	Speed, distance, time	1.06	2	53	1.06	1.72	1.31	1.12	0.82	0.52	0.52
5	Solve linear equations	1.02	2	51	1.02	1.83	1.40	1.09	0.65	0.42	0.43
6	Bar charts & ratio	0.98	2	49	0.98	1.66	1.33	1.02	0.67	0.46	0.40
7	Product of prime factors	0.96	2	48	0.96	1.79	1.48	0.98	0.46	0.13	0.03
8	Product of prime factors	1.38	3	46	1.38	2.48	1.95	1.45	0.89	0.48	0.31
9a	Probability from a table	1.48	2	74	1.48	1.90	1.76	1.56	1.21	0.83	0.60
9b	Ratio in real context	0.89	2	45	0.89	1.80	1.40	0.95	0.41	0.26	0.25
9c	Apply four operations	0.43	1	43	0.43	0.69	0.58	0.45	0.29	0.20	0.17
10	Transformations	0.45	1	45	0.45	0.73	0.62	0.47	0.29	0.21	0.22
11	Pressure	0.83	2	42	0.83	1.69	1.20	0.86	0.52	0.26	0.21
12	Multiplying decimals	0.75	2	38	0.75	1.49	0.99	0.77	0.56	0.37	0.21
		16.15	31.00	52.10	16.15	27.06	22.22	17.04	10.59	6.15	4.72