

GCSE Mathematics (1MA1)

Themed papers – Solving Equations: Linear

Compiled from student-friendly mark schemes

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
	$5 - x = 2(2x - 7)$ $5 - x = 4x - 14$	M1	This mark is given for a method to remove the fraction from the equation
	$4x + x = 14 + 5$ $5x = 19$	M1	This mark is given for a method to isolate x on one side of the equation
	$x = 3.8$	A1	This mark is given for the correct answer only

Question 2 (Total 3 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
	$5x - 6 = 3x - 3$	1	This mark is given for expanding brackets
	$5x - 6 - 3x = -3$ $2x - 6 = -3$	1	This mark is given for isolating x on one side of the equation
	$2x = 3$ $x = 1\frac{1}{2}$	1	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)	$9 + x = 7(11 - x)$	M1	This mark is given for a method to multiply both sides by 7
	$9 + x = 77 - 7x$ $x + 7x = 77 - 9$ $8x = 68$	M1	This mark is given for a method to isolate the x terms on one side
	$x = 8.5$	A1	This mark is given for the correct answer only
(b)	$4(y + 3)$	B1	This mark is given for the correct answer only

Question 4 (Total 4 marks)

Part	Working an or answer examiner might expect to see	Mark	Notes
	$\frac{3(3x-2)}{12} - \frac{4(2x+5)}{12} = \frac{2(1-x)}{12}$	M1	This mark is given for writing at least two algebraic factions with a common denominator
	$3(3x-2) - 4(2x+5) = 2(1-x)$	M1	This mark is given for a method to eliminate all fractions in the equation
	$9x - 8x + 2x = 2 + 6 + 20$ $3x = 28$	M1	This mark is given for rearranging and correctly isolating terms in x
	$x = 9\frac{1}{3}$	A1	This mark is given for the correct answer only

Mark scheme for 1MA1 Higher themed papers: Solving Equations: Linear

Performance data:

Q	Taken from			Total Marks available	TOPIC	Spec Ref	AO	% Mean marks	Edexcel mean averages Marks of candidates who achieved grade:										
	Q	Series	Paper						ALL	9	8	7	6	5	4	3	2	1	U
1	7	June 2018	3H	3	Algebra	A17	1	67	2.02	2.95	2.88	2.72	2.36	1.64	0.78	0.28	-	-	0.11
2	1	Nov 2017	2H	3	Algebra	A17	1	50	1.49	3	2.88	2.76	2.62	2.41	1.72	1.01			0.41
3a	10a	Nov 2019	3H	3	Algebra	A17	1	38	1.15	3	2.86	2.83	2.3	1.62	0.65	0.13	-	-	0.02
3b	10b	Nov 2019	3H	1	Algebra	A4	1	44	0.44	1	0.97	0.91	0.74	0.65	0.32	0.07	-	-	0.03
4	11	June 2017	2H	4	Algebra	A17	1	33	1.32	3.5	2.76	1.89	1.13	0.55	0.22	0.07	-	-	0.04
				14					6.42	13.45	12.35	11.11	9.15	6.87	3.69	1.56	-	-	0.61