Version 1.0

ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Methods in Mathematics 9365

Unit 1 Foundation Tier 93651F

Mark Scheme

Specimen Paper

Mark Schemes

Principal Examiners have prepared these mark schemes for specimen papers. These mark schemes have not, therefore, been through the normal process of standardising that would take place for live papers.

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Registered address AQA, Devas Street, Manchester M15 6EX *Dr Michael Cresswell Director General.*

Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
B	Marks awarded independent of method.
Q	Marks awarded for quality of written communication. (QWC)
M dep	A method mark dependent on a previous method mark being awarded.
B dep	A mark that can only be awarded if a previous independent mark has been awarded.
ft	Follow through marks. Marks awarded following a mistake in an earlier step.
SC	Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
oe	Or equivalent. Accept answers that are equivalent. eg, accept 0.5 as well as $\frac{1}{2}$
eeoo	Each error or omission.

M1 Foundation Tier

Section A

Q	Answer	Mark	Comments
1	1.89 – 0.45 = (1.44 or 144)	M1	
	Their 1.44 ÷ 0.9(0)	M1	oe
	1.6	A1	
2(a)	Correct plot	B1	
2(b)	Plots (8, 5) and attempts to find mid-point or $\frac{2+8}{2}$	M1	
	(5, 5)	A1	
3	(totals are 45) Answer 16, 23, 14, 25	B3	B2 For 3 correct B1 For 1 or 2 correct or sight of 45
4	78 or 78 ÷ 3 = 26 seen	M1	
	Lines dividing face into (11, 12, 1, 2), (10, 9, 3, 4) and (8, 7, 6, 5}	A1	SC1 1 section with total of 26
5	0.2, 20% and 4/20 circled	B2	B1 If 2 correct (none incorrect) B1 If 3 correct and one incorrect
6	$8a + 2b$	B2	B1 Either term correct in a 2-term expression
7(a)	All sections marked with 2	B1	
7(b)	All sections marked with odd numbers	B1	
7(c)	2 sections marked with 3	B1	

Q	Answer	Mark	Comments
8	Evidence of choosing a number and dividing by 2, 3 and 4	M1	Sight of at least two of: 3, 5, 7, 9 , 11 2, 5, 8, 11, 14 7, 11, 15, 19, 23
	Any two of 11, 23, 35 etc	A1	$12n - 1$
9(a)	2.68328…	B1	
9(b)	373.248	B1	
10(a)(i)	$\frac{1}{50}$	B1	oe
10(a)(ii)	$\frac{1}{5}$	B2	B1 For $\frac{10}{50}$ oe
10(b)(i)	$\frac{1}{3}$	B1	
10(b)(ii)	No ticked and explanation such as 14 not in 3 times table	B1	
11	C, F, T, T All correct	B3	
	3 correct	B2	
	2 correct	B1	
12	Identifying any number whose digits have a sum of 9 other than 18	M1	$2 + 7 = 9$ etc.
	Identifying the 9 times table	A1	
	9	A1	
13	$7x - 3x = 5 + 9$	M1	Allow one sign error
	$4x = 14$	A1	
	3.5, $3\frac{1}{2}$, $\frac{14}{4}$, $\frac{7}{2}$	A1ft	ft On one error only

Q	Answer	Mark	Comments
14	Sight of $x - 3$ or $2x$	B1	
	$x + x - 3 + 2x = 25$	M1	Allow M1 for sum of any 2 of x, $x - 3$ or $2x = 25$
	$4x - 3 = 25$	A1	
	7	A1ft	ft Their equation if M1 awarded. $x + x - 3 = 25$ gives $x = 14$ $x + 2x = 25$ gives $x = 8.33...$ $x - 3 + 2x = 25$ gives $9.33...$
Alt 14	Three values with a total of 25	M1	
	Two values that differ by 3 or two values where one is twice the other	M1	Pair of values must not add to more than 25
	14, 7, 4	A1	
	7	A1	

Section B

15(a)(i)	175	B1	
15(a)(ii)	218	B1	
15(a)(iii)	186	B1	
15(a)(iv)	39	B1	
15(b)(i)	72 000	B1	
15(b)(ii)	720	B1	

16	100 or 8	M1	
	800	A1	790, 824, 820

17	50%, $\frac{7}{10}$ and 0.03	B3	B1 For each $\frac{7}{10}$ oe fraction

Q	Answer	Mark	Comments
18	Trial and improvement with any value chosen and this value reduced by 6 five times and totalled	M1	$x, x-6, x-12$ seen M1 $100 \div 5 = 20$
	Improved value	M1	$x + x - 6 + x - 12 + x - 18 + x - 24$ $(= 5x - 60 = 100)$ Their $20 + 6 + 6$
	32	A1	QWC Strand (iii) – To achieve a correct solution , a clear and organised approach must be evident
19(a)	$(y =)$ 8	A1	$48 \div 6 \times 5$
	40	A1	
19(b)	$3(7) + 5(-4)$	M1	20 and 21 seen
	1	A1	
20	Writes down at least 5 different combinations	M1	$5 \times 4 (\div 2)$ or $4 + 3 + 2 + 1$
	10	A1	Allow 20
21(a)	19, 9^2, 8^2, 9, 8	B2	B1 For 3 or 4 correct
21(b)	n^2, $n + 1$ and n	B2	B1 For 1 or 2 correct
22(a)(i)	$\frac{3}{6}$ or $\frac{1}{2}$	B1	
22(a)(ii)	$\frac{5}{6}$	B1	
22(b)	Denominator 10	M1	
	Numerator 6	A1	$\frac{3}{5}$ is B2
23	A = 4 B = 1 C = 6 D = 2 E = 5	B3	B2 For 3 or 4 correct B1 For 2 correct SC B1 For C = 0, 1, 5 or 6

Q	Answer	Mark	Comments
24(a)	$x(x-3)$	B1	$(x+0)(x-3)$
24(b)	$3x^2+6x-2x^2+6x$	M1	Allow one sign or arithmetic error
	x^2+12x	A1	$x(x+12)$
25	$\frac{15}{4}-\frac{5}{3}$	M1	
	$\frac{45}{12}-\frac{20}{12}$	A1	Any common denominator
	$2\frac{15}{4}$ or $\frac{25}{12}$	A1	
25 Alt	$(3-1)+\frac{3}{4}-\frac{2}{3}$	M1	
	$2+\frac{9}{12}-\frac{8}{12}$	A1	Any common denominator
	$2\frac{1}{12}$ or $\frac{25}{12}$	A1	
26	$3x-4+10-7x$ or $2(3-2x)$	M1	
	$6-4x$	A1	
	Solution clearly set out and correct	Q1	QWC Strand (i) - All signs, brackets and notation must be correct