Version 1.0

ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Methods in Mathematics 9365

Unit 2 Foundation Tier 93652F

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.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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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.

M2 Foundation Tier

Q	Answer	Mark	Comments
1(a)	(8, 6)	B1	
1(b)	A correct rectangle	B1	
2(a)(i)	Diameter	B1	
2(a)(ii)	Chord	B1	
2(a)(iii)	Radius	B1	
2(b)	Tangent drawn at A	B1	
3(a)	2004	B1	
3(b)	4200	B1	
3(c)	2400	B1	
3(d)	Four thousand and twenty	B1	
4(a)	1, 2, 5, 10	B2	Any 2 or 3 correct B1
4(b)(i)	6790	B1	
4(b)(ii)	6800	B1	
5	Identifies total getting on at B as 6	M1	oe eg, 7 at C
	Identifies pattern of passengers increasing as 6, 7, 8, 9 etc	A1	11, 18, 26, etc
	56	A1	
6(a)	Acute angle drawn	B1	
6(b)	Obtuse angle drawn	B1	
6(c)	Quad with reflex angle	B2	Any quad drawn B1 Any shape with a reflex angle B1
7	20 – 1.2 (= 18.8)	M1	
	Their 18.8 ÷ 4 × 3	M1	Their 18.8 – (their 18.8 ÷ 4)
	14.10	A1	

Q	Answer	Mark	Comments
8	16 out of 50 or 6 out of 20	B1	oe eg, $\frac{16}{50}$ or $\frac{6}{20}$
	Attempt to convert to equivalent form	M1	oe eg, both percentage or out of 10 or out of 50
	One worked out correctly	M1	30%, 32%, $\frac{15}{50}$, $\frac{3}{10}$ etc
	Clear comparison, and A	A1	QWC Strand (iii) – To achieve a correct solution , a clear and organised approach must be evident
9(a)(i)	19	B1	
9(a)(ii)	$+4$	B1	oe
9(b)	7	B2	B1 For 5, 3 ...
9(c)(i)	27	B1	
9(c)(ii)	21	B1	
10(a)	Any correct shape	B1	
10(b)	Any correct shape with 5 vertices	B2	Any correct shape with not 5 vertices B1 Any shape with 5 vertices B1
10(c)	Any correct shape with area 6	B2	Any correct shape with area not 6 B1 Any shape with area 6 B1
11	$2 \times 3 \times 2 \times 18 \ (= 216)$	M1	
	$\sqrt[3]{(\text{their } 216)}$	M1	
	6	A1	
12	Both triangles correct	B2	One triangle correct ; or 2 triangles that are reflections of each other in the mirror line, B1

Q	Answer	Mark	Comments
13(a)(i)	13	B1	
13(a)(ii)	12	B1	
13(b)	(perimeter) 4×8 (= 32)	M1	oe $x + 3 + 8 = x - 1 + PQ$ for M2
	$x + 3 = 8$ or $x = 5$	M1	oe
	$(32 - 4 - 4) \div 2$	M1	Re-arranging M1
	12	A1	PQ = 12 QWC Strand (iii) – To achieve a correct solution , a clear and organised approach must be evident
14	$\sqrt{1936}$ (= 44)	M1	
	45^2 (= 2025)	M1	2025 – 1936 is M2
	89	A1	
15(a)	A and C	B1	
15(b)	C	B1	
15(c)	$x + y + 5x - y$	M1	
	$6x$ and 6 is a multiple of 3	A1	$6x$ and $2 \times 3 = 6$ oe
16	$x = 360 - 110 - 110$	M1	oe
	140 ($= x$)	A1	
	70 ($= y$)	B1	
17	$\pi \times 4.2^2$	M1	oe
	55.(4 ...)	A1	
18	Any 90° rotation	B1	
	90° clockwise	B1	
	Fully correct	B1	

Q	Answer	Mark	Comments
19(a)	6.790566…	B1	
19(b)	6.8	B1ft	1 dp from their 19(a)
20	$(x =)$ 55°	B1	
	$(y =)$ 55°	B1	
	180 – 55 – their y	M1	
	$(z =)$ 70°	A1 ft	
21	Venn diagram method Intersection = 16	M1	
	Mobile only section = 11 **and** Computer only section = 1	M1 dep	
	2	A1	
21 Alt 1	27 – 16 = 11; **and** 17 – 16 = 1	M1	
	30 – 16 – their 11 – their 1	M1 dep	
	2	A1	
21 Alt 2	27 + 17 – 16 (= 28)	M1	
	30 – their 28	M1 dep	
	2	A1	
22	$7.5^2 + 5.2^2$	M1	
	√their 83.29	M1 dep	
	9.13	A1	Accept 9.1, 9.12(…)
23	Area of triangle = $\frac{1}{2} \times 4 \times 4$	M1	Splitting diagram into right-angled triangles oe
	8	A1	32 triangles
	8/10 (4/5)	A1	32/40 oe