

Bronze Level

Mark Scheme 2

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Mark Scheme 2

Time Allowed: 60 minutes

Score: /50

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>95%	85%	75%	65%	55%	45%	35%	25%	<25%

1. (a) (i)		a^4	1	B1	not a^4 accept upper case A
(a) ($30ab$	1	B1	accept $ab30, 30ba, a30b, b30a$ (no x signs allowed) accept upper case A and/or B
(a) (iii)		q^6	1	B1	accept upper case Q
(b)	$5 - 12 = 2y$ oe			M1	or $5 - 12 \div 2$ or $12 - 5 \div -2$
		-3.5 o	2	A1	ans dependent on M1 (above numerical methods acceptable)
(c)	$6^2 - 2 \times 6$ oe			M1	accept $36 - 12$
		24	2	A1	
					Total 7 marks

2.		Intersecting arcs from P and Q Perpendicular bisector joining both arcs	2	B1	arcs must intersect above and below line PQ
					Total 2 marks

3. (i)		136.5	1	B1	
(ii)		137.5 or 137.49 recurring or $137.499\dots$	1	B1	dot above 9 for recurring or $137.499\dots$ (i.e. $.499$ or better)
					Total 2 marks

4.	3 or more correct factors of which 2 are from 2,3,3,7			M1	e.g $2 \times 3 \times 21$ or $2, 3, 21$ must multiply to 126 could be implied from a factor tree or division ladder
	All 4 correct prime factors & no extras (ignore 1's)	$2, 3, 3, 7$ or $2, 3, 3, 7, 1$ or $2 \times 3 \times 3 \times 7 \times 1$		M1	could be implied from a factor tree or division ladder
		$2 \times 3 \times 3 \times 7$	3	A1	any order, do not accept inclusion of 1's must be a product on answer line (dots or crosses)
					Total 3 marks

5.	Use of $\sin 42$ or $\cos (90 - 42)$			M1	$9.3^2 - (9.3 \cos 42)^2 (=38.72\dots)$
	$9.3 \times \sin 42$ or $9.3 \cos (90 - 42)$			M1	$\sqrt{("38.72\dots")}$ (M1 dep)
		6.22	3	A1 awrt 6.22	$6.22(2914\dots)$
					Total 3 marks

Question	Working	Answer	Mark	Notes
6. (a)	7/32 x 100 oe	21.9	2	M1 A1 (21.875) accept awrt to 21.9
(b)	4/100 x 32 (=1.28) or 4/100 x 32000000 (=1280000) 32 + "1.28" or 32000000 + "1280000"	33	3	M1 M2 for 32 x 1.04 oe or 32000000 x 1.04 oe M1 (dep) A1 (33.28) accept 33.3, 33000000, 33300000, 33280000
				Total 5 marks
7.	2/5 x 30	12	2	M1 A1 12 out of 30 = M1A1 12/30 = M1A0
				Total 2 marks
8.	$\pi \times 7.5^2 \times 26$	4590	3	M2 M1 for $\pi \times 15^2 \times 26$ or 18369 → 18386 inc A1 (4594.579....) accept answers 4592 → 4597 inc
				Total 3 marks
9.	Arcs of length 6cm from A and B ----- Arc of length 10 cm from A or B ----- Arc of length 6 cm from correct top vertex ----- Correct rhombus within overlay tolerance		4	M1 ----- M1 ----- M1 ----- A1 Dependent on M3 sc B1 for correct rhombus with no construction lines.
				Total 4 marks
10. (a)		$a(5 - 3a)$	2	B2 B1 for factors which when expanded & simplified give 2 terms for which one is correct.
(b) (i)		$8 - 6w$	1	B1
(ii)		$y^3 + 10y^2$	2	B2 B1 for y^3 or $10y^2$
(c)	7.168 / 0.64	11.2	2	B2 B1 for 7.168 or 0.64
				Total 7 marks

11. (a) (i)		Does not study Maths No student studies (both) German and Maths Students who study German do not study Maths etc	1	B1	Accept general answers (e.g. no student belongs in both sets).
(ii)		(Preety) does not study French (Preety) is not a member of (set) F	1	B1	Accept she /he in place of Preety or omission of name. Penalise extra incorrect statements (e.g. Preety studies Maths and German but not French)
(b)		1,2,3,4	2	B2	B1 for any 3 correct with no repetitions or additions.
					Total 4 marks

12. (a)		9 to 11	1	B1	
(b) (i)	$(1 \times 3) + (4 \times 6) + (7 \times 10) + (10 \times 15) + (13 \times 5) + (16 \times 1)$ (=328) "328" ÷ ("3+6+10+15+5+1")	8.2	4	M2 M1 A1	All products, $t \times f$ using $\frac{1}{2}$ way points correctly, and intention to add. Award M1 if all products, $t \times f$ using their $\frac{1}{2}$ way points consistently, from 6 to 8 interval onwards and intention to add. (dep on one at least M1) Accept 8 with working. 8 without working = M0A0
(ii)		Mid-points used as actual data is unknown	1	B1	Mention of mid-points <u>or</u> exact (actual) data is unknown.
					Total 6 marks

Question	Working	Answer	Mark	Notes
13.	$\frac{4.2}{1.12}$		2	1 for 4.2 or 1.12 or 0.6 or $\frac{15}{4}$
		3.75		A1
				Total 2 marks