Location Entry Codes

UNIVERSITY of CAMBRIDGE
International Examinations

As part of CIE's continual commitment to maintaining best practice in assessment, CIE has begun to use different variants of some question papers for our most popular assessments with extremely large and widespread candidature, The question papers are closely related and the relationships between them have been thoroughly established using our assessment expertise. All versions of the paper give assessment of equal standard.

The content assessed by the examination papers and the type of questions are unchanged.

This change means that for this component there are now two variant Question Papers, Mark Schemes and Principal Examiner's Reports where previously there was only one. For any individual country, it is intended that only one variant is used. This document contains both variants which will give all Centres access to even more past examination material than is usually the case.

The diagram shows the relationship between the Question Papers, Mark Schemes and Principal Examiner's Reports.

Question Paper	Mark Scheme	Principal Examiner's Report
Introduction	Introduction	Introduction
First variant Question Paper	First variant Mark Scheme	First variant Principal Examiner's Report
Second variant Question Paper	Second variant Mark Scheme	Second variant Principal Examiner's Report

Who can I contact for further information on these changes?
Please direct any questions about this to CIE's Customer Services team at: international@cie.org.uk

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2008 question paper

0580 and 0581 MATHEMATICS

0580/11 and 0581/11 Paper 11 (Core), maximum raw mark 56

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the October/November 2008 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Page 2	Mark Scheme	Syllabus	Pap
	IGCSE – October/November 2008	0580 and 0581	11

Abbreviations

cao correct answer only
ft work has been followed through after an error
isw ignore subsequent working
oe or equivalent
SC Special Case
soi seen or implied
ww without working

Qu.	Answers	Mark	Part Marks
1	28	1	
2	2	1	
3	–13	1	
4	6.5	1	
5	$12 - 13x$ cao final answer	2	W1 for (+)12 or $-13x$ seen anywhere
6	11.5	2	M1 for $4.6 \times$ figs 25 or W1 for figs 115
7 (a) **(b)**	> =	1 1	
8	15.77 cao	2	M1 for $20 \div 1.2685$ or W1 for answers from 15 to 17
9	(x=) 10.2 or $10\frac{1}{5}$ isw	2	M1 for $(53 - 2) \div 5$ soi
10	$6650 \leq L < 6750$	1, 1	1 mark for each value correctly placed. SC1 both correct but reversed
11 (a) **(b)**	12 24	1 1	
12	(k=) 8	2	M1 for $0 = 2 \times 4 - k$ or better
13 (a) **(b)** **(c)**	5.78×10^{-3} 0.0058 0.01	1 1 1	 Accept 5.8×10^{-3} Accept 1×10^{-2}
14	$\frac{15}{4}$ seen $\frac{5}{8} \times$ their $\frac{4}{15}$ $\frac{1}{6}$	W1 M1 A1	 Must be inversion of an improper fraction Can be implied by $\frac{5}{8} \div$ '$\frac{15}{4}$' = '$\frac{20}{120}$'. ww no marks

Page 3	Mark Scheme	Syllabus	Pap
	IGCSE – October/November 2008	0580 and 0581	11

Qu.	Answers	Mark	Part Marks
15 (a)	Point marked at (3, 2)	1	Missing label not penalised.
(b)	(–2, 1)	1	More than 1 point seen, must be labelled
(c)	–0.5 or $-\frac{1}{2}$	1	By eye 2mm
16 (a)	1	1	
(b)	q^{11}	1	
(c)	r^{-6} or $\frac{1}{r^6}$	1	
17 (a)	12 seen on diagram at ***A and B*** or $180^o - 168^o = 12^o$. **AND** 12 + 78 (= 90)	1	Allow $168^o + 12^o = 180^o$ only Allow $90^o - 78^o = 12^o$ or $90^o - 12^o = 78^o$ if the first condition is satisfied
(b)	123^o	2	W1 for angle *BAC* (or angle *BCA*) = 45^o
18 (a)	1083300 to 1084000 or 1080000 or 1083000 Final answer	2	M1 for $\pi \times 50^2 \times 138$ or $\pi \times 0.5^2 \times 1.38$
(b)	Their **(a)** ÷ 10^6 evaluated	1ft	
19 (a)	64	2	M1 for 2 × (10 + 22) or 22 + 10 + 14 + 6 + (22 – 14) + (10 – 6)
(b)	172	2ft	M1 for (22 × 10) – 6 × '8' or (140 × 10) + '8' × '4' or 14 × 6 + 22 × '4'
20 (a)	15(%) or 0.15 or $\frac{15}{100}$ oe	1	isw for change of form or cancelling only in all parts. Not ratio.
(b) (i)	$\frac{4}{15}$ oe cao	1	Allow 0.267 or 0.266(6….) or % form Minimum 3 significant figures
(ii)	$\frac{10}{15}$ oe cao	1	Allow 0.667 or 0.666(6…) or % form Minimum 3 significant figures
			Consistent use of wrong denominator in all of **(b)**, –1 once.
(iii)	0 or $\frac{0}{15}$ cao	1	Allow nil, none or zero only. No other denominator allowed.
21 (a)	Similar	1	
(b)	15	2	M1 for 10 ÷ 8 × 12 or equivalent method
(c)	292	2	M1 for 360 – 68
22 (a)	45	1	
	5	1	
	75	1ft	Their '5' × 15 or 120^o – '45'
(b)	All sectors correct ± 2°	1ft	Ft provided angles total 360°
	'Correctly' labelled	1	Independent. Labelling of the other 3 sectors.

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2008 question paper

0580 and 0581 MATHEMATICS

0580/12 and 0581/12 Paper 12 (Core), maximum raw mark 56

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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Abbreviations

cao correct answer only
ft work has been followed through after an error
isw ignore subsequent working
oe or equivalent
SC Special Case
soi seen or implied
ww without working

Qu.	Answers	Mark	Part Marks
1	36	1	
2	2	1	
3	–13	1	
4	7.4	1	
5	$10 - 17x$ cao final answer	2	W1 for (+)10 or $-17x$ seen anywhere
6	9.5	2	M1 for $3.8 \times$ figs 25 or W1 for figs 95
7 (a) **(b)**	> =	1 1	
8	23.65 cao	2	M1 for $30 \div 1.2685$ or W1 for answers from 23 to 25
9	(x=) 10.6 or $10\frac{3}{5}$ isw	2	M1 for $(54 - 1) \div 5$ soi
10	$6650 \leqslant L < 6750$	1, 1	1 mark for each value correctly placed. SC1 both correct but reversed
11 (a) **(b)**	12 24	1 1	
12	(k=) 8	2	M1 for $0 = 2 \times 4 - k$ or better
13 (a) **(b)** **(c)**	6.56×10^{-3} 0.0066 0.01	1 1 1	 Accept 6.6×10^{-3} Accept 1×10^{-2}

Page 3	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2008	0580 and 0581	12

Qu.	Answers	Mark	Part Marks
14	$\frac{20}{3}$ seen	W1	
	$\frac{4}{9}$ × their $\frac{3}{20}$	M1	Must be inversion of an improper fraction Can be implied by $\frac{4}{9} \div \text{'}\frac{20}{3}\text{'} = \text{'}\frac{12}{180}\text{'}$
	$\frac{1}{15}$	A1	ww no marks
15 (a)	Point marked at (3, 2)	1	Missing label not penalised.
(b)	(–2, 1)	1	More than 1 point seen, must be labelled.
(c)	–0.5 or $-\frac{1}{2}$	1	By eye 2mm
16 (a)	1	1	
(b)	q^8	1	
(c)	r^{-8} or $\frac{1}{r^8}$	1	
17 (a)	12 seen on diagram at ***A*** **and** ***B*** or $180^o - 168^o = 12^o$. **AND** 12 + 78 (= 90)	1	Allow $168^o + 12^o = 180^o$ Allow $90^o - 78^o = 12^o$ or $90^o - 12^o = 78^o$ If the first condition is satisfied
(b)	123^o	2	W1 for angle *BAC* (or angle *BCA*) = 45^o
18 (a)	1458216 to 1459145 or 1460000 or 1459000 Final answer	2	M1 for $\pi \times 60^2 \times 129$ or $\pi \times 0.6^2 \times 1.29$
(b)	Their **(a)** ÷ 10^6 evaluated	1ft	
19 (a)	64	2	M1 for $2 \times (10 + 22)$ or $22 + 10 + 14 + 6 + (22 - 14) + (10 - 6)$
(b)	172	2ft	M1 for $(22 \times 10) - 6 \times$ '8' or $(140 \times 10) +$ '8' × '4' or $14 \times 6 + 22 \times$ '4'

Page 4	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2008	0580 and 0581	12

Qu.	Answers	Mark	Part Marks
20 (a)	15(%) or 0.15 or $\frac{15}{100}$ oe	1	isw for change of form or cancelling only in all parts. Not ratio.
(b) (i)	$\frac{4}{15}$ oe cao	1	Allow 0.267 or 0.266(6….) or % form Minimum 3 significant figures
(ii)	$\frac{10}{15}$ oe cao	1	Allow 0.667 or 0.666(6…) or % form Minimum 3 significant figures Consistent use of wrong denominator in all of **(b)**, –1 once.
(iii)	0 or $\frac{0}{15}$ cao	1	Allow nil, none or zero only. No other denominator allowed
21 (a)	Similar	1	
(b)	19.95 to 20.04	2	M1 for 12 ÷ 9 × 15 or equivalent method
(c)	297	2	M1 for 360 – 63
22 (a)	45	1	
	5	1	
	75	1ft	Their '5' × 15 or 120° – '45'
(b)	All sectors correct ± 2°	1ft	Ft provided angles total 360°
	'Correctly' labelled	1	Independent. Labelling of the other 3 sectors.