



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

MATHEMATICS

0580/12

Paper 1 Core

May/June 2016

MARK SCHEME

Maximum Mark: 56

Published

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, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2016 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.

© IGCSE is the registered trademark of Cambridge International Examinations.

This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **4** printed pages.

Page 2	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2016	0580	12

Abbreviations

cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
oe	or equivalent
SC	Special Case
nfww	not from wrong working
soi	seen or implied

Question	Answer	Mark	Part marks
1	$0.008 < 0.2 < 0.304 < 0.57$	1	
2	5.89 or 5.885 to 5.886	1	
3	3.590 cao	1	
4	Parallelogram	1	
5	284.2[0] cao	1	
6	36	1	
7 (a)	5f final answer	1	
(b)	g^8 final answer	1	
8	24	2	M1 for $6 \div 45$ or $180 \div 45$
9	$7n - 3$ oe	2	M1 for $7n + a$ or $bn - 3$ ($b \neq 0$)
10	15	2	M1 for $20 \div 12$ or $12 \div 9$ or $9 \div 12$ or $12 \div 20$
11 (a)	2.6×10^6	1	
(b)	[0].0058	1	
12	$\frac{1}{4}$	1	
	[0].3	1	
	0.08	1	
13 (a)	Arrow 2 cm from 0	1	
(b) (i)	$\frac{8}{20}$ oe	1	
(ii)	$\frac{12}{20}$ oe	1FT	FT 1 – <i>their</i> (b)(i) provided <i>their</i> (b)(i) < 1

Page 3	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2016	0580	12

Question	Answer	Mark	Part marks
14 (a)	44	1	
(b)	180 to 184	2	M1 for £50 = \$90 to \$92 oe soi
15 (a) (i)	$\begin{pmatrix} 12 \\ -6 \end{pmatrix}$	1	
(ii)	$\begin{pmatrix} 7 \\ -2 \end{pmatrix}$	1	
(b)	A in correct position	1	
16 (a)	(0, -3)	1	
(b)	4	1	
(c)	$y = 4x [+0]$	1FT	FT $y = \text{their (b)}x$ for numerical gradient only
17	45	3	M2 for $360 \div (180 - 172)$ or M1 for $180 - 172$ or $\frac{180(n-2)}{n} = 172$ oe
18	$\frac{21}{8} \times \frac{3}{7}$ oe $1\frac{1}{8}$ cao final answer	M1 A2	Must be shown A1 for $\frac{9}{8}$ oe e.g. $\frac{63}{56}$
19	Correctly eliminating one variable $x = 4$ $y = 0.5$ oe	M1 A1 A1	If zero scored SC1 for 2 values satisfying one of the original equations or if no working shown, but 2 correct answers given
20 (a)	Bisector of angle B accurate with two pairs of correct arcs	2	B1 for accurate line with no/wrong arcs or for correct arcs with no/wrong line
(b)	Ruled line parallel to AC at a distance of 3 cm to AC only inside the triangle	1	
21 (a)	Wed[nesday]	1	
(b)	4	1	
(c)	9	1	
(d)	-1 nfw	1	

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2016	0580	12

22	(a)	51	2	M1 for $\frac{1}{2} \times (10 + 7) \times 6$ oe
	(b)	612 cm ³	1FT 1	FT $12 \times \textit{their (a)}$
23	(a)	16 10 or 4 10 pm	1	M1 for $8 \div 40$ or better FT line from <i>their</i> (16 55, 8) to ((<i>their</i> 16 55 + 30 mins), 0)
	(b)	12	2	
	(c)	Line from (16 10, 8) to (16 55, 8) Line from (16 55, 8) to (17 25, 0)	1 1FT	