

## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

### MARK SCHEME for the May/June 2006 question paper

#### **0580 and 0581 MATHEMATICS**

**0580/01 and 0581/01** Paper 1, maximum raw mark 56

These mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

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*.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

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

CIE is publishing the mark schemes for the May/June 2006 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Page 1	Mark Scheme	Syllabus
	IGCSE – May/June 2006	0580 and 0581

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1	-27	1	
2	0.09 9% $\frac{9}{100}$	1	
3	10000 or $1 \times 10^4$ oe.	1	
4 (a)	7	1	
(b)	Any multiple of 70 (e.g. 490)	1	
5	2.71(4....)	2	<b>M1</b> for attempt at cube root of 20
6 (a)	0.075976(....)	1	
(b)	0.076	1 f.t.	f.t. candidates <b>(a)</b>
7	345000 355000	1, 1	
8	$2x(x - 3y)$	2	<b>M1</b> for $2(x^2 - 3xy)$ or $x(2x - 6y)$ or $2x(\dots)$
9 (a) (i)	$\frac{4}{10}$ oe.	1	
(ii)	0	1	
(b)	$\frac{7}{12}$ o.e.	1	
10 (a)	$p^5$	1	
(b)	$q^7$	1	
(c)	$r^6$	1	
		<b>19</b>	

Page 2	Mark Scheme	Syllabus
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11	(a)	(\$) 25	1	<b>M1</b> for $500 \times 1.05^2$ or $(c's (a) + 500) \times 1.05$
	(b)	(\$) 551.25	2	
12	(a)	A-2 correct lines and B-6 correct lines	1, 1	Allow not ruled and small inaccuracies.
	(b)	2	1	
13		$(x=) 5, (y=)-3$	3	<b>M1</b> correct method to eliminate $y$ or $x$ . (add equations or correct multiply and subtract) <b>A1, A1</b> <b>ww</b> allow <b>SC1</b> for 1 correct answer. <b>ww</b> both correct, full marks.
14	(a)	6 (h) 50 (min)	1	<b>B1</b> for 9 (hours) seen or <b>M1</b> for $c's 9 \div 24 \times 100$
	(b)	37.5 (%)	2	
15	(a)	$\begin{pmatrix} -3 \\ 12 \end{pmatrix}$	1	
	(b)	Parallel oe.	1	
		$CD$ is 3 times as long as $AB$ oe.	1	
16	(a)	(hockey) 105, (cricket) 30	2	1 mark each correct entry.
	(b)	Correct line on pie chart to divide hockey and cricket. $(30 \pm 2)$ degrees to left of vertical oe.	1ft	ft only if the angles in (a) total $135^\circ$
	(c)	Football	1	
			<b>19</b>	

Page 3	Mark Scheme	Syllabus
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17	(a)	54	2	<b>M1</b> for $90 \div 5 \times 3$
	(b)	9.15(....)	2	<b>M1</b> for $57.5 \div (2\pi)$ or <b>SC1</b> for $57.5 \div \pi$ . (implied by 18.3...)
18	(a)	Net of the cuboid	2	<b>M1</b> for a net with 6 correct size rectangles. <b>A1</b> for a fully correct net.
	(b)	52	2ft	<b>M1</b> for 5 or 6 areas calculated and added or <b>SC1</b> for answer of 26. ft only if 5 or 6 rectangles are shown in part (a).
			<b>8</b>	
19	(Joseph \$) 17.5(0)		2	<b>M1</b> for $30 \div 12 \times 7$ .
	(Maria \$) 9		2	<b>M1</b> for $30 \div 100 \times 30$ .
	(Rebecca \$) 3.50		1ft	30 – c's Joseph – c's Maria.
20	(a)	$1.13 \times 10^6$	2	<b>M1</b> for 2000 x 565 seen or <b>B1</b> for figs 113
	(b)	$4.42(....) \times 10^{-2}$	3	<b>M1</b> for $25 \div 565$ soi and <b>B1</b> for figs 442(....)
			<b>10</b>	
			<b>Total 56</b>	