June 2004

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 56

SYLLABUS/COMPONENT: 0580/01, 0581/01

MATHEMATICS

Paper 1 (Core)

UNIVERSITY *of* CAMBRIDGE
International Examinations

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1		39	1	
2		842	1	Ignore any or no units after answer. Allow 84200cm.
3	(a)	$\frac{3}{4}$ final answer	1	
	(b)	$\frac{7}{100}$ final answer	1	
4	(a)	49	1	
	(b)	31	1	
5		4.5(0)	2	M1 for 18 x 25 or 450 or 4m 50cm seen (18:450 and 18:4.5 also indicate M1)
6		$4\frac{1}{2}$ or $\frac{9}{2}$ or $\frac{18}{4}$ or $4\frac{2}{4}$	2	M1 for $\frac{9}{4}$ x $\frac{2}{(1)}$ seen. Allow SC1 for 4.5 or $4\frac{1}{2}$oe **seen with incomplete or decimal working.**($\frac{9}{4}$ or × $\frac{2}{(1)}$ oe or 2.25 ÷ 0.5) Answer only, no working, is 0.
7		141.5, 142.5	2	1 for each answer SC1 for both values correct but wrong way round.
8		2x(2y – 3z)	2	M1 for 2($2xy – 3xz$) or x($4y – 6z$) or 2x(wrong expression) Allow omitted last bracket.
9		190.48 or 190.47 or 190	2	M1 for 200 ÷ 1.05, implied by 190.(…..) **Not** allow 190.5 or 190.4 or 190.00 for 2 marks
10	(a)	0	1	(a) and (b) reversed–no marks
	(b)	2	1	

(18)

11	(a)	110°	2	B1 for Q = 35° s.o.i.(can be on diagram) 70 seen implies B1.
12	(a)	3	1	
	(b)	0	1	
13	(a)(i)	200 40	1	
	(a)(ii)	5f.t.	1	Only f.t. for simple mental calculation. E.g. 220 ÷ 40 = 5.5 or 200 ÷ 30 = 6 or 7 or $6\frac{2}{3}$ or 6.6 or 6.66 etc
	(b)	5.6	1	
14		B or 2nd – dependent on M1, M1	3	M1 for a correct method for 1 bottle, implied by figs 615 or 652 seen or figs 1625 or 153… seen. M1(dep) for a complete correct method with consistent units. (Implied by a correct pair of values seen. Alt. Method completely correct is M2
15		2.65 or 2.649(….)	3	M1 for sin 32° = $\frac{h}{5}$ M1 (dep) for h = 5sin 32° (2.6….implies M2 provided no obvious scale drawing, which is zero) Other methods can be split similarly. From grads 2.409 or radians 2.757 implies M2

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16	(a)	13	2	M1 for –3 + 16 seen
	(b)	$\dfrac{y-a}{b}$ or $y-\dfrac{a}{b}$ oe Allow $\dfrac{a-y}{-b}$	2	M1 for a correct step, for clearly dividing by b or y – a seen.
17		Bar Chart	4	S1 correct scale **and** equal width bars. (Lost for vertical lines drawn) B2 all bars correct height or B1 for any 2 bars correct height. Dots or line graph is B0. L1 correct labels.
18	(a)	$4.5(0)	2	M1 for 50 x (0.25 or 25) or $12.5(0) or 1250 seen, or $0.25 - 8 \div 50 = (0.09)$ or $25 - 800 \div 50 = (9)$
	(b) *	56.25 or 56 or 56.3 or 56.2	2f.t.	M1 for their (a)/8 x 100 or $\dfrac{\text{their profit for 1 orange}}{\text{their cost for 1 orange}} \times 100$
19	(a)	2826 to 2828 or 2830	2	M1 for $\pi \times 30^2$ or $\pi \times 0.3^2$ and method not spoilt.
	(b) *	226.(080) to 226.(240) or 226.(4…)	2f.t.	M1 for his (a) × 80 s.o.i. or correct f.t. answer seen in cubic centimetres.

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20	(a)	9	2	M1 for 31 + 5 or $\dfrac{31-5}{4}$ or $x - 1.25 = 7.75$
	(b)	14	2	M1 for $4y - 20 = 36$ or $y - 5 = 9$ or better.
21	(a)	00 15 or 12 15am Ignore am added to 00 15	1	Allow a clear time in words. E.g. 15 minutes after midnight. Not 12 15 or 24 15
	(b)(i) *	7 h 30min Allow $7\frac{1}{2}$ or 7.5 hours	1f.t.	f.t. their (a)
	(b)(ii) *	749.(33….) f.t.	3f.t.	B1 for their 7.5 or $7\frac{1}{2}$ or their 450 minutes and (finally) multiplied by 60 **used**. M1 for 5620/their time (independent of B1) (f.t. dependent on B1 and M1) [Watch for 5620 ÷ 7.3 = 769.(86…) implies B0 M1.]

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