CAMBRIDGE
INTERNATIONAL EXAMINATIONS

NOVEMBER 2002

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK : 104

SYLLABUS/COMPONENT : 0580/3; 0581/3

MATHEMATICS

(CORE)

UNIVERSITY of CAMBRIDGE
Local Examinations Syndicate

https://xtremepape.rs/

Question number	Mark scheme	Part mark	Notes	Question total
1 a)	i) 750 ml ii) 0.75 l oe iii) $475 \leq M < 485$ iv) 0.48(0) kg	1 1 1+1 1		
b)	i) 400 ml ($\pm$ 20 ml) ii) any value in the range $2.5 \leq V < 3.5$	2 2	M1 for $\frac{2}{3} \times 600$ SC1 for 3.5 l or $2 \leq V < 2.5$	
				9
2a)	i) W8 L13 D3 accurate pie chart, with angles 120°,195°,45° ($\pm$ 2°)√ Sectors labelled (dep) ii) $\frac{1}{3}$ oe √	2 3 1 1	SC1 if one (compensating) error M1 for a correct calculation, such as $\frac{8}{24} \times 360$ A1 for one correct angle	
b)	0.2 oe	2	M1 for 1–(0.45+0.35)	
				9
3 a)	i) 4.69 cm ii) 8.83cm iii) 20.7cm^2 (√)	2 2 2	M1 for 10sin28° M1 for 10cos28° (SC2 for both answers, to at least 2s.f.,reversed) M1 for $\frac{1}{2}$*their a) i)*×*their a)ii)*, oe complete method	
b)	i) a.r.t. 78.5cm^2 ii) 26.4% (√) iii) Angle in a semicircle = 90°	2 2 1	M1 for $\pi \times 5^2$ seen M1 for $\frac{\textit{their}20.7}{\textit{their}78.5} \times 100$ oe, seen	
				11

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4 a)	i) Reflection in x-axis oe ii) Rotation through 90° anticlockwise,about O	1 1 1 1		
b)	i) correct translation ii) correct enlargement	2 2	SC for any translation involving movement in the x- and y-directions SC1 for any other enlargement of L, centre O or for correct enlargement with one vertex wrong	
				8
5 a)	i) 72 cm^3 ii) 108 cm^2	2 3	M1 for 3×4×6 M2 for 2(3×4+3×6+4×6) or M1 if one error in this expression	
b)	i) 36cm^3 (√) ii) 30 cm^2	1 3	M2 for $\sqrt{3^2+4^2}\times 6$ or M1 for $\sqrt{3^2+4^2}$ s.o.i.	
				9
6 a)	$\frac{1}{4}$	2	M1 for $\frac{1}{2}\times\frac{1}{2}$ oe	
b)	i) $\frac{1}{6}$ ii) $\frac{5}{12}$ (√)	2 2	M1 for $\frac{1}{3}\times\frac{1}{2}$ oe M1 for *their* $\frac{1}{4}$ + *their* $\frac{1}{6}$	
c)	1040	2		
				8
7 a)	i) −1,5 ii) Correct straight line drawn	1+1 1		
b)	x=1.4 to 1.7, y= 3.5 to 3.8	1+1	dep on correct line in a)	
c)	x=$\frac{14}{9}$, y=$\frac{33}{9}$ oe	4	M2 for correct method as far as ax = b or cy = d A1 for either correct answer	
				9
8 a)	237km (± 6 km)	2	M1 for 8cm (±0.2) seen	
b)	(part of) circle centre A, radius 5cm (part of) circle centre B, radius 5 cm T labelled at intersection	1 1 1		
c)	circle centre T drawn, radius 5 cm	1	should pass through A and B	

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			(±1mm)	
d)	correctly placed point, with method of finding it clear	3	B1 for correct point with no evidence or M1 for relevant construction seen but point wrong	
				9
9 a)	i) 90 cents ii) 30 cents iii) LH column 150,125,100,–,50,25,0 RH column 4500,5000,5000,–, 3500,2000,0	1 1 2 4	SC1 for 3 or more correct M1 for attempt to multiply first column by second column at least once A1+1+1 for each two correct	
b)	i) $15 ii) 45 cents	2 1	M1 for 35–20	
				11
10 a)	33=3×11 34=2×17 35=5×7	1 1 1		
b)	6	2	M1 for some correct experimentation seen	
c)	14 and 15	1		
d)	85,86 and87	3	SC1 for two of the three correct or M1 for correct factors of any of them seen	
				9
11 a)	First line 6,8,12 Second line 5,7,11 Third line 17,23,35	1 1 1	Alternatively 1 mark for each correct column. Award whichever total is greater	
b)	20,19,59	1+1+1		
c)	i) x=2*l* ii)y=2*l*–1 (√) iii) T=6*l*–1 (√)	1 1 2	Must be in terms of *l*	
d)	14 (√)	2	from *their* c)iii)	
				12
			TOTAL	**104**

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