MARK SCHEME for the October/November 2015 series

0580 MATHEMATICS

0580/13

Paper 1 (Paper 1 (Core)), maximum raw mark 56

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

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Abbrevi	ations		-cloud.co
dep	dependent		m

Abbreviations

cao	correct	answer	only
••••		••••••	J

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

Q	uestion	Answer	Mark	Part marks
1		6054	1	
2		6.7	1	
3		3	1	
4		170 cao	1	
5		[0].101 or [0].1005 to [0].1006	1	
6		6	1	
7	(a)	12, 15	1	
	(b)	11, 13	1	
8	(a)	5	1	
	(b)	Subtract 4 oe	1	
9		5 - u final answer	2	B1 for $5 + ku$ or $j - u$, $k \neq 0$ as final answer
10	(a)	2	1	
	(b)	-9	1	
11		23.6 or 23.57 to 23.58	2	M1 for sin [=] $\frac{2}{5}$ oe
12		$2^3 \times 3^2$ or $2 \times 2 \times 2 \times 3 \times 3$	2	B1 for 2, 2, 2, 3, 3
13		31.6 [2]	2	M1 for $\sqrt{18^2 + 26^2}$
14		Correct triangle with correct arcs	2	B1 for correct triangle without arcs or 1 correct side with arcs
15		562.5 cm ³	2 1	M1 for 5 × 12.5 × 9
16		Any two of $\frac{8}{12}$, $\frac{2}{12}$ or $\frac{3}{12}$ oe	M1	M1 for any 2 correct over a common denominator, eg $\frac{4}{2}$ and $\frac{1}{2}$
		$\frac{8}{12} + \frac{2}{12} - \frac{3}{12}$ oe	M1	or SC2 for final answer 13 or 1^{-1} with full working
		$\frac{7}{12}$	A1	$\frac{1}{12}$ or $\frac{1}{12}$ with run working
17	(a)	3x + 21 final answer	1	
	(b)	2x(1-2x) final answer	2	B1 for $2(x - 2x^2)$ or $x(2 - 4x)$ as final answer

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Question	Answer	Mark	Part ma	rks	
18 (a)	230	1			
(b)	C marked in correct position	2	B1 for correct distance 8 cm or	correct bearing	155°
19 (a)	[0].00017	1			
(b)	1.026×10^{-3}	2	B1 for 10.26×10^{-4} oe		
20 (a)	96	2	M1 for 360 – (66 + 98 +112)		
(b)	4140	2	M1 for $(25 - 2) \times 180$ or $25 \times ($	$\left(180 - \frac{360}{25}\right)$	
21 (a)	12 nfww	2	M1 for $\frac{x}{7.5} = \frac{10}{6.25}$ oe		
(b)	3.75 cao	2	M1 for $\frac{y}{6} = \frac{6.25}{10}$ oe		
22	Correctly equating one set of coefficients	M1	eg $10x + 4y = 16$ and $10x - 15$ or $15x + 6y = 24$ and 4	y = 130 $x - 6y = 52$	
	Correct method to eliminate one variable	M1	eg $19y = k$ or $hx = 114$ or 19.	x = m or $ny = 7$	6
	[<i>x</i> =] 4	A1			
	[y =] -6	A1	If zero scored SC1 for 2 values original equations. SC1 if no working shown, but	s satisfying one of 2 correct answer	of the
23 (a) (i) 60	1			
(ii	$\frac{90}{360}$ oe	1			
(iii) 46	2	M1 for $\frac{138}{360} \times 120$		
(b)	2.4 nfww	3	M1 for (0×3) + (1×3) + $(2 \times (5 \times 2))$ implied by 60	$(3 \times 5) + (3 \times 5) + (4)$	× 4) +
			M1dep for <i>their</i> 60 ÷ 25		