CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/21 Paper 2 (Extended), maximum raw mark 40

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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

1	**(a)**	4700	1	
	(b)	[0].010	1	
2	**(a)**	$-6x + 7$	2	**B1** for $-6x + 3x^2$ or $-3x^2 + 7$
	(b)	$25xy - 25x^2 - 6y^2$	3	**B2** for $10xy - 25x^2 - 6y^2 + 15xy$ or **B1** for 1 error in above
3		$\dfrac{1}{3}$	2	**B1** for 3 seen or for $\dfrac{1}{\sqrt[3]{27}}$
4		$4x^4 y$	2	**B1** for $kx^4 y$ or $4x^k y$ or $4x^4 y^k$
5	**(a)**	$10\sqrt{3}$	2	**M1** for $3\sqrt{3}$ or $7\sqrt{3}$
	(b)	$\dfrac{7 - 3\sqrt{5}}{2}$ or $\dfrac{14 - 6\sqrt{5}}{4}$	3	**M1** for $\times \dfrac{3 - \sqrt{5}}{3 - \sqrt{5}}$ **M1** for $\dfrac{a - b\sqrt{5}}{4}$ $a, b \neq 0$ oe
6		50	3	**M2** for $[\log]\left(\dfrac{5x}{25}\right) = [\log] 10$ oe or **M1** for a correct use of logs

7						4	**B1** for 240 **B1** for 72 **M1** for $\dfrac{2}{3} \times their\, 72$

	Boys	Girls	Total
Can	112	168	280
Cannot	48	72	120
Total	160	240	

8	(a)	1	1	
	(b)	45°	2	**M1** for $\tan 45 = 1$ or **M1** for $\tan y = their\textbf{(a)}$ or **M1** for $\dfrac{(180-90)}{2}$

9	(a)	$\dfrac{1}{10}$ oe	1	
	(b)	2	2	**M1** for $3x - 2 = 4$
	(c)	$\dfrac{1}{3}\left(\dfrac{1}{x} + 2\right)$ oe	3	**M1** for one correct step **M1** for 'swapping' x and y

10	(a)	$\dfrac{1}{6}\,\mathbf{p}$	2	**B1** for $DC = \dfrac{1}{2}\mathbf{p}$ soi
	(b)	$\dfrac{5}{12}\mathbf{p} - \mathbf{q}$	2	**M1** for $-\mathbf{q} + \dfrac{3}{4}\mathbf{p}$ seen

| 11 | | $y = 2x - 1$ oe | 4 | **B1** for [mid-point =] (4, 7)
B1 for [gradient =] –0.5
M1 for grad of perp = $\dfrac{-1}{their(-0.5)}$ |