

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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Page 2	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0607	21

Abbreviations

cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
oe	or equivalent
SC	Special Case
nfw	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		$\frac{1}{3}$	2	B1 for 3 seen or for $\frac{1}{\sqrt[3]{27}}$																
4		$4x^4y$	2	B1 for kx^4y or $4x^ky$ or $4x^4y^k$																
5	(a)	$10\sqrt{3}$	2	M1 for $3\sqrt{3}$ or $7\sqrt{3}$																
	(b)	$\frac{7-3\sqrt{5}}{2}$ or $\frac{14-6\sqrt{5}}{4}$	3	M1 for $\times \frac{3-\sqrt{5}}{3-\sqrt{5}}$ M1 for $\frac{a-b\sqrt{5}}{4}$ $a, b \neq 0$ oe																
6		50	3	M2 for $[\log] \left(\frac{5x}{25} \right) = [\log] 10$ oe or M1 for a correct use of logs																
7		<table><tr><td></td><td>Boys</td><td>Girls</td><td>Total</td></tr><tr><td>Can</td><td>112</td><td>168</td><td>280</td></tr><tr><td>Cannot</td><td>48</td><td>72</td><td>120</td></tr><tr><td>Total</td><td>160</td><td>240</td><td></td></tr></table>		Boys	Girls	Total	Can	112	168	280	Cannot	48	72	120	Total	160	240		4	B1 for 240 B1 for 72 M1 for $\frac{2}{3} \times their 72$
	Boys	Girls	Total																	
Can	112	168	280																	
Cannot	48	72	120																	
Total	160	240																		

Page 3	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0607	21

8	(a)	1	1	
	(b)	45°	2	M1 for $\tan 45 = 1$ or M1 for $\tan y = \text{their}(\mathbf{a})$ or M1 for $\frac{(180-90)}{2}$
9	(a)	$\frac{1}{10}$ oe	1	
	(b)	2	2	M1 for $3x - 2 = 4$
	(c)	$\frac{1}{3}\left(\frac{1}{x} + 2\right)$ oe	3	M1 for one correct step M1 for ‘swapping’ x and y
10	(a)	$\frac{1}{6} \mathbf{p}$	2	B1 for $DC = \frac{1}{2} \mathbf{p}$ soi
	(b)	$\frac{5}{12} \mathbf{p} - \mathbf{q}$	2	M1 for $-\mathbf{q} + \frac{3}{4} \mathbf{p}$ seen
11		$y = 2x - 1$ oe	4	B1 for [mid-point =] (4, 7) B1 for [gradient =] -0.5 M1 for grad of perp = $\frac{-1}{\text{their}(-0.5)}$