

**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
nfw	not from wrong working
soi	seen or implied

<b>1</b>	<b>(a)</b>	4700	<b>1</b>			
	<b>(b)</b>	[0].010			<b>1</b>	
<b>2</b>	<b>(a)</b>	$-6x + 7$	<b>2</b>	<b>B1</b> for $-6x + 3x^2$ or $-3x^2 + 7$		
	<b>(b)</b>	$25xy - 25x^2 - 6y^2$			<b>3</b>	<b>B2</b> for $10xy - 25x^2 - 6y^2 + 15xy$ or <b>B1</b> for 1 error in above
<b>3</b>		$\frac{1}{3}$	<b>2</b>	<b>B1</b> for 3 seen or for $\frac{1}{\sqrt[3]{27}}$		
<b>4</b>		$4x^4y$	<b>2</b>	<b>B1</b> for $kx^4y$ or $4x^k y$ or $4x^4 y^k$		
<b>5</b>	<b>(a)</b>	$10\sqrt{3}$	<b>2</b>	<b>M1</b> for $3\sqrt{3}$ or $7\sqrt{3}$		
	<b>(b)</b>	$\frac{7-3\sqrt{5}}{2}$ or $\frac{14-6\sqrt{5}}{4}$			<b>3</b>	<b>M1</b> for $\times \frac{3-\sqrt{5}}{3-\sqrt{5}}$  <b>M1</b> for $\frac{a-b\sqrt{5}}{4}$ $a, b \neq 0$ oe
<b>6</b>		50	<b>3</b>	<b>M2</b> for $[\log] \left(\frac{5x}{25}\right) = [\log] 10$ oe  or <b>M1</b> for a correct use of logs		
<b>7</b>			<b>4</b>	<b>B1</b> for 240 <b>B1</b> for 72 <b>M1</b> for $\frac{2}{3} \times their 72$		
		Boys			Girls	Total
	Can	112			168	280
	Cannot	48			72	120
	Total	160	240			

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