

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

## **MARK SCHEME for the May/June 2015 series**

# **0607 CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/52**

Paper 5 (Core), maximum raw mark 24

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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Page 2	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0607	52

### 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)	$  \begin{array}{cccc}  \text{H} & \text{H} & \text{H} & \text{H} \\    &   &   &   \\  \text{H}-\text{C} & -\text{C} & -\text{C} & -\text{C}-\text{H} \\    &   &   &   \\  \text{H} & \text{H} & \text{H} & \text{H}  \end{array}  $	1									
(b) (i)	8, 10, 12, 14	1									
(ii)	26	1									
(iii)	$2c + 2$	2	<b>B1</b> for $2c$ C opportunity								
(iv)	49	<b>1FT</b>	<b>FT</b> <i>their</i> (b)(iii) providing linear formula C opportunity								
2 (a)	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td><i>c</i></td> <td><i>h</i></td> <td><i>o</i></td> <td><i>t</i></td> </tr> <tr> <td>3</td> <td>8</td> <td>1</td> <td>12</td> </tr> </table>	<i>c</i>	<i>h</i>	<i>o</i>	<i>t</i>	3	8	1	12	1	
<i>c</i>	<i>h</i>	<i>o</i>	<i>t</i>								
3	8	1	12								
(b)	$3c + 3$ oe	2	<b>B1</b> for $3c$ C opportunity								
3 (a)		1	Both diagrams correct								
(b)	4 3 5 4 6 5	1									
(c)	<i>m</i>	1									
(d)	96	1									

<b>Page 3</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>Cambridge IGCSE – May/June 2015</b>	<b>0607</b>	<b>52</b>

<b>4</b>	<b>(a)</b>	8 10 10 13 12 16	<b>1</b>																						
	<b>(b) (i)</b>	$2m$ oe	<b>1</b>																						
	<b>(ii)</b>	$3m - 2$ oe	<b>2</b>	<b>B1</b> for $3m$ oe <b>C</b> opportunity																					
	<b>(c)</b>	148	<b>2FT</b>	<b>B1 FT</b> for <i>their</i> 50 soi <b>FT</b> <i>their</i> 50 in <i>their</i> formula for $r$ <b>C</b> opportunity																					
<b>5</b>	<b>(a)</b>	<table border="1"> <thead> <tr> <th><math>h</math></th> <th><math>s</math></th> <th><math>r</math></th> </tr> </thead> <tbody> <tr> <td>1</td> <td><math>m</math></td> <td><math>m - 1</math></td> </tr> <tr> <td>2</td> <td><math>2m</math></td> <td><math>3m - 2</math></td> </tr> <tr> <td>3</td> <td><math>3m</math></td> <td><math>5m - 3</math></td> </tr> <tr> <td>4</td> <td><math>4m</math></td> <td><math>7m - 4</math></td> </tr> <tr> <td>5</td> <td><math>5m</math></td> <td><math>9m - 5</math></td> </tr> <tr> <td>6</td> <td><math>6m</math></td> <td><math>11m - 6</math></td> </tr> </tbody> </table>	$h$	$s$	$r$	1	$m$	$m - 1$	2	$2m$	$3m - 2$	3	$3m$	$5m - 3$	4	$4m$	$7m - 4$	5	$5m$	$9m - 5$	6	$6m$	$11m - 6$	<b>2</b>	<b>B1</b> for row 4 or 6 correct or either column correct
		$h$	$s$	$r$																					
		1	$m$	$m - 1$																					
		2	$2m$	$3m - 2$																					
3		$3m$	$5m - 3$																						
4		$4m$	$7m - 4$																						
5	$5m$	$9m - 5$																							
6	$6m$	$11m - 6$																							
<b>(b) (i)</b>	$hm$ oe	<b>1</b>																							
<b>(ii)</b>	$(2h - 1)m - h$ oe isw	<b>1</b>	oe																						
Communication seen in two of <b>1(b)(iii)</b> , <b>1(b)(iv)</b> , <b>2(b)</b> , <b>4(b)(ii)</b> , <b>4(c)</b>		<b>1</b>																							