

**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.

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

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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

<b>1 (a)</b>	$  \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}  $	<b>1</b>									
<b>(b) (i)</b>	8, 10, 12, 14	<b>1</b>									
<b>(ii)</b>	26	<b>1</b>									
<b>(iii)</b>	$2c + 2$	<b>2</b>	<b>B1</b> for $2c$ C opportunity								
<b>(iv)</b>	49	<b>1FT</b>	<b>FT</b> <i>their (b)(iii)</i> providing linear formula C opportunity								
<b>2 (a)</b>	<table border="1"> <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	<b>1</b>	
<i>c</i>	<i>h</i>	<i>o</i>	<i>t</i>								
3	8	1	12								
<b>(b)</b>	$3c + 3$ oe	<b>2</b>	<b>B1</b> for $3c$ C opportunity								
<b>3 (a)</b>		<b>1</b>	Both diagrams correct								
<b>(b)</b>	4 3 5 4 6 5	<b>1</b>									
<b>(c)</b>	<i>m</i>	<b>1</b>									
<b>(d)</b>	96	<b>1</b>									

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4	(a)	8 10 10 13 12 16	1																						
	(b) (i)	$2m$ oe	1																						
	(ii)	$3m - 2$ oe	2	<b>B1</b> for $3m$ oe <b>C</b> opportunity																					
	(c)	148	2FT	<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																					
5	(a)	<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	$6m$	$11m - 6$	2	<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) (i)	$hm$ oe	1																						
	(ii)	$(2h - 1)m - h$ oe isw	1	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>			1																						