CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/51 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.

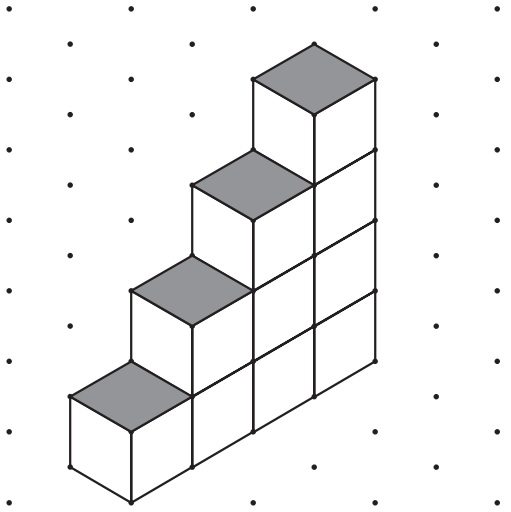
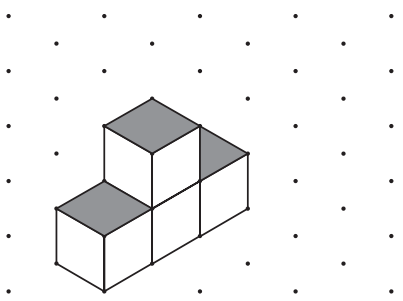
Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

CAMBRIDGE
International Examinations

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)**	3	**1**	
	(b)		**1**	
	(c)	Height: 1 2 3 4 5 6 Cubes: 1 **3** 6 **10** **15** **21**	**2**	**B1** for 15 **B1** for 21
	(d)	55	**1**	**C** opportunity
	(e) **(i)**	13	**1**	**C** opportunity
	(ii)	9	**1**	**FT** *their* **(i)** if answer <13
2	**(a)**	16	**1**	
	(b)		**1**	

	(c)	<table><tr><td>Height</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>Cubes</td><td>1</td><td>**4**</td><td>9</td><td>**16**</td><td>**25**</td><td>**36**</td></tr></table>	**1**	**B1** for 25 and 36
	(d)	Square [numbers]	**1**	
	(e)	100	**1**	
	(f)	n^2 or $n \times n$ or $1n^2$ cao	**1**	
3	**(a)**	6	**1**	
	(b)	<table><tr><td>Height</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>Cubes</td><td>2</td><td>**6**</td><td>12</td><td>**20**</td><td>**30**</td><td>**42**</td></tr></table>	**2**	**B1** for one of 20, 30, 42 **FT** double *their* **1(c)** with no errors
	(c)	110	**1**	**C** opportunity
	(d) **(i)**	$n^2 + n$ or $n(n + 1)$ oe	**2**	If 0 scored **B1** for kn^2 ($k \neq 0$)
	(ii)	15	**1**	
	(e)	DOUBLE staircase = UP AND DOWN staircase + height (number of steps) oe	**1**	
4	**(a)**	Double staircase = 2 times UP staircase oe	**1**	
	(b)	$\frac{1}{2}n^2 + \frac{1}{2}n$ or $n \times \frac{1}{2}n + \frac{1}{2}n$ oe	**1FT**	**FT** $\frac{1}{2} \times$ *their* **3(d)(i)**
Communication seen in two of **1(d), 1(e)(i), 3(c), 3(d)(ii)**			**1**	