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MARK SCHEME for the May/June 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/51 Paper 5 (Core), maximum raw mark 24

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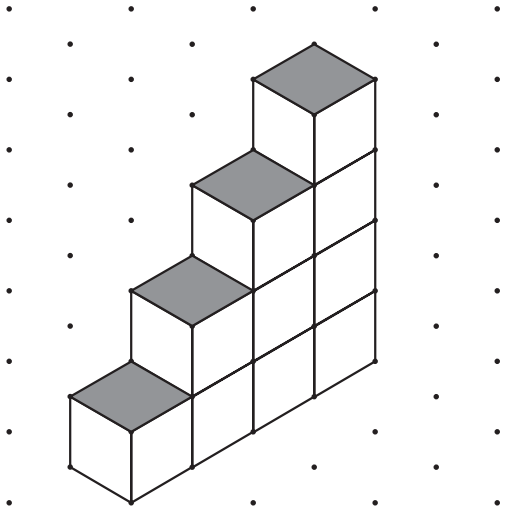
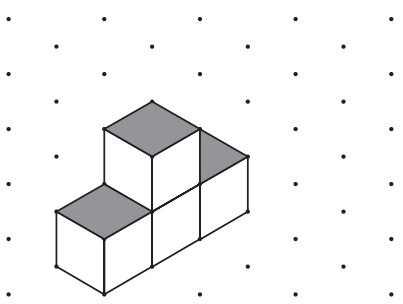
Abbreviations

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

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**	

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	(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**	

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