UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 question paper

for the guidance of teachers

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/05 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 must be read in conjunction with the question papers and the report on the examination.

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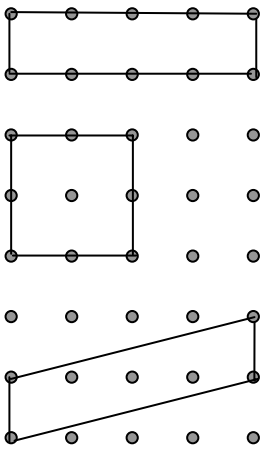
Question	Answer	Mark	Notes	Comm
1	<table><tr><th>Figure</th><th>p</th><th>i</th><th>A</th><th>$p + 2i - 2$</th></tr><tr><td>Q</td><td>4</td><td>0</td><td>1</td><td>2</td></tr><tr><td>R</td><td>10</td><td>2</td><td>6</td><td>12</td></tr><tr><td>S</td><td>14</td><td>4</td><td>10</td><td>20</td></tr><tr><td>T</td><td>8</td><td>2</td><td>5</td><td>10</td></tr><tr><td>U</td><td>8</td><td>5</td><td>8</td><td>16</td></tr><tr><td>V</td><td>16</td><td>5</td><td>12</td><td>24</td></tr><tr><td>W</td><td>18</td><td>2</td><td>10</td><td>20</td></tr><tr><td>X</td><td>8</td><td>1</td><td>4</td><td>8</td></tr><tr><td>Y</td><td>9</td><td>1</td><td>$4\frac{1}{2}$</td><td>9</td></tr></table>	10	B10	Deduct one for each wrong or omitted entry up to the maximum of 10
2	$p + 2i - 2 = 2A$ oe	1	B1	Condone bad form
3	$p = 18$ $i = 15$ $18 + 2 \times 15 - 2$ (= 46) $A = 23$	 4	A1 soi M1ft substitution into $p + 2i - 2$ A1 cao C1 Evidence of using areas	23 SC1 (if C1 not given) e.g. counting squares must be for the pentagon
4	$7 + 2 \times 4 - 2$ s.o.i. $A = 6\frac{1}{2}$	 2	M1 A1 OR B2	13 implies M1 Communication for three terms seen

5 **(a)**	One from $p = 10$ $i = 0$ $p = 8$ $i = 1$ $p = 4$ $i = 3$	1	B1 isw	Communication if evidence of using (maybe correctly) $p + 2i - 2 = 8$ or $p + 2i = 10$
(b)	 etc.	1	B1	Other quadrilaterals are possible Corresponding to their correct p and i If **(a)** wrong or omitted: accept a different quadrilateral from that in the question with $p = 6$ and $i = 2$
6	$p = 2$ gives a line oe	1	R1	$p = 3$ is the smallest value to give an area Reference must be made to dots or p
7	(p) 4 6 8 10 12 14 (i) 5 4 3 2 1 0		B3	$+\frac{1}{2}$ for each correct pair. $-\frac{1}{2}$ for each wrong pair. Round down Communication for reasoning using Pick's equation
		1	C1 for one communication mark in questions **4**, **5(a)** or **7**	