

# Mark Scheme (Results)

March 2010

GCSE

GCSE Mathematics (Modular) - 2381

Paper: 5381H/6B

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Question	Working	Answer	Mark	Notes																																
1		<table><tr><td>14</td><td> </td><td>6</td><td>7</td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td> </td><td>1</td><td>2</td><td>4</td><td>5</td><td>8</td><td>8</td></tr><tr><td>16</td><td> </td><td>3</td><td>4</td><td>7</td><td>9</td><td></td><td></td></tr><tr><td>17</td><td> </td><td>0</td><td>2</td><td>6</td><td></td><td></td><td></td></tr></table> <div>Key: 14   6 means 146</div>	14		6	7					15		1	2	4	5	8	8	16		3	4	7	9			17		0	2	6				3	M1 for unordered stem and leaf diagram (condone 2 errors, 1 number misplaced counts as 1 error; an omission is 1 error). Note: ignore commas; accept inconsistent/absent spacing A1 for correctly ordered and fully correct diagram B1 for key e.g. 14   6 means 146; 14   6 = 146; accept 140   6 etc if consistent with the table; units not necessary. NB: if 1   46 , etc used, mark as above and penalise one mark. If an ordered and unordered diagram are presented mark the ordered.
14		6	7																																	
15		1	2	4	5	8	8																													
16		3	4	7	9																															
17		0	2	6																																
2 (a)		Question with response boxes.	2	B2 for suitable question with time frame, and for at least 3 non-overlapping response boxes; need not be exhaustive. (B1 for a suitable question with time frame, OR at least 3 non-overlapping response boxes; need not be exhaustive). NB: Ignore units.																																
(b)		Valid reason	1	B1 for valid reason eg not all ages covered.																																

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Question	Working	Answer	Mark	Notes
3		Completed box plot	2	B2 for completely correct diagram; accept whisker line through box. (B1 for at least one of these aspects: box drawn from 30 to 46, OR any box with median line at 36, OR whiskers drawn from 18 to 54 from a box, termination taken at the end of the line and not necessarily with a line or a point marked). NB: tolerance $\pm 1/2$ square (see overlay) NB: box edges may be defined by the edge of the grid.
4 (a)		22.25	1	B1 for answer in range 22 - 22.5 (million) inclusive oe.
(b)		"No" with reason	1	B1 for statement that Delia is not correct and use of value in range 23.5 - 24.5 (million) oe for women (eg states an acceptable difference between males and females); the statement for Delia is ft: eg if (a) > (b) the candidate needs to state that Delia is correct.

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Question	Working	Answer	Mark	Notes
5 (a)	$\frac{4}{5} \times \frac{4}{5} \times \frac{4}{5}$	$\frac{64}{125}$	2	M1 for $\frac{4}{5} \times \frac{4}{5} \times \frac{4}{5}$ A1 for $\frac{64}{125}$ , 0.512, 51.2% oe
(b)	$\left(\frac{4}{5} \times \frac{4}{5} \times \frac{4}{5}\right) + \left(\frac{1}{5} \times \frac{4}{5} \times \frac{4}{5}\right) +$ $\left(\frac{4}{5} \times \frac{1}{5} \times \frac{4}{5}\right) + \left(\frac{4}{5} \times \frac{4}{5} \times \frac{1}{5}\right) +$ $\left(\frac{1}{5} \times \frac{1}{5} \times \frac{4}{5}\right) + \left(\frac{1}{5} \times \frac{4}{5} \times \frac{1}{5}\right) + \left(\frac{4}{5} \times \frac{1}{5} \times \frac{1}{5}\right)$ <p>OR</p> $1 - \left(\frac{1}{5} \times \frac{1}{5} \times \frac{1}{5}\right)$	$\frac{124}{125}$	3	M2 for complete method (M1 for at least one correct product or an evaluation of them) A1 for $\frac{124}{125}$ , 0.992 oe  OR M2 for complete method (M1 for either $\frac{1}{5} \times \frac{1}{5} \times \frac{1}{5}$ or $1 - P(\text{no seeds germinate})$ ) A1 for $\frac{124}{125}$ , 0.992 oe NB: for both parts ignore subsequent working where candidates take an otherwise correct answer and attempt to cancel it (incorrectly).

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