

Mark Scheme (Results)

March 2010

GCSE

GCSE Mathematics (Modular) - 2381

Paper: 5381H/6B

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5381H/6B				
Question	Working	Answer	Mark	Notes
1		$\begin{array}{r l} 14 & 6 \quad 7 \\ \hline 15 & 1 \quad 2 \quad 4 \quad 5 \quad 8 \quad 8 \\ \hline 16 & 3 \quad 4 \quad 7 \quad 9 \\ \hline 17 & 0 \quad 2 \quad 6 \end{array}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Key: 14 6 means 146</div>	3	<p>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.</p>
2	(a)	Question with response boxes.	2	<p>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.</p>
	(b)	Valid reason	1	<p>B1 for valid reason eg not all ages covered.</p>

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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 style="text-align: center;">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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