

Mark Scheme (Results)

November 2009

GCSE

GCSE Mathematics (Modular) - 2381

Paper: 5381H/6A

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Publications Code UG 022435

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5381H/6A				
Question	Working	Answer	Mark	Notes
1 (a)	$\begin{array}{l l} 1 & 6\ 7 \\ 2 & 0\ 0\ 0\ 1\ 2\ 5\ 7\ 9 \\ 3 & 5\ 3\ 2\ 0\ 7\ 8 \\ 4 & 0\ 8\ 0\ 5 \\ 5 & 4 \end{array}$	$\begin{array}{l l} 1 & 67 \\ 2 & 00012579 \\ 3 & 023578 \\ 4 & 0058 \\ 5 & 4 \end{array}$ <p>Key 5 4 represents 54 (years)</p>	3	<p>B2 for a correct ordered diagram [B1 for an unordered diagram allowing 1 error/omission OR for an ordered diagram <u>with</u> 1 error or omission] Note: 1 error can look like 2 in the diagram when one value is misplaced</p>
(b)		30 years	1	<p>B1 for 30 or ft an ordered diagram in (a) Note: If their stem & leaf diagram contains other than 21 data points, the selection of the 11th entry must be fully explained in terms of, for example $\left(\frac{21+1}{2}\right) = 11$</p>
2 (a)		$\frac{14}{40}$	1	<p>B1 for $\frac{14}{40}$ seen [oe. including $\frac{7}{20}$, 0.35, 35%] Do not penalize any incorrect cancelling or converting [Note: the $\frac{14}{40}$ seen must not be contradicted by sight also of $\frac{8}{40}$ and/or $\frac{12}{40}$ and/or $\frac{6}{40}$ In such cases award B0]</p>
(b)	$8 \times 70 = 560$ OR $8 \times 60 = 480$ and $8 \times 80 = 640$ and mid-interval found	The mid-interval value 70 multiplied by the frequency 8 gives 560 oe eg. $8 \times 70 = 560$	1	<p>B1 for correct explanation Accept $8 \times 70 (= 560)$</p>

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Question	Working	Answer	Mark	Notes
(c)	$8 \times 70 + 12 \times 90 + 6 \times 110$ $+ 14 \times 130 = 4120$ $'4120' \div '40' = 103$	103	3	M1 for fx , x used consistently in the interval (accept the use of the upper limits). Allow 1 slip [This maybe implied by sight of 3 or 4 correct values from 560, 1080, 660 and 1820 Note: If there is no working after this, M1 can still be awarded] M1 (dep) for $\frac{\sum f "x"}{\sum f}$ " $\sum f$ " must be seen to be the sum of 8, 12, 6 and 14] A1 cao
3	(a)	4	1	B1 cao
	(b)	26	1	B1 cao
	(c)	Reason	1	B1 for an acceptable reason
	No, because 75% lie between 15 and 30m OR 50% lie between 15m and 25m			
4	$8 \times 1 + 12 \times 1 + 10 \times 3 + 4 \times 4$	66	3	M1 for use of frequency density (eg sight of 1.6 on fd axis or $8 \div 5$) OR counting squares (eg. 1 cm square = 4 or 25 squares = 4 or sight of 16.5 or 412.5) A1 any 3 (from 4) correct frequencies from 8, 12, 30 and 16 A1 cao [SC: B1 for any correct extra frequency value found/seen if M0 scored]

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