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Mark Scheme (Results)

November 2009

GCSE

GCSE Mathematics (Modular) - 2381
Paper: 5381H/6A

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Question	**Working**	**Answer**	**Mark**	**Notes**
1 (a)	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	1 | 67 2 | 00012579 3 | 023578 4 | 0058 5 | 4 Key 5 | 4 represents 54 (years)	3	B2 for a correct ordered diagram [B1 for an unordered diagram allowing 1 error/omission OR for an ordered diagram **with** 1 error or omission] Note: 1 error can look like 2 in the diagram when one value is misplaced B1 (indep) for a correct key
(b)		30 years	1	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 $\left(\frac{21+1}{2}\right)=11$
2 (a)		$\frac{14}{40}$	1	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]
(b)	8 × 70 = 560 OR 8 × 60 = 480 and 8 × 80 = 640 and mid-interval found	The mid-interval value 70 multiplied by the frequency 8 gives 560 oe eg. 8 × 70 = 560	1	B1 for correct explanation Accept 8 × 70 (= 560)

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Question		**Working**	**Answer**	**Mark**	**Notes**
	(c)	$8\times70+12\times90+6\times110$ $+14\times130=4120$ '4120'÷"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 $\frac{\Sigma f\ "x"}{"\Sigma f"}$ "Σ*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)	No, because 75% lie between 15 and 30m OR 50% lie between 15m and 25m	Reason	1	B1 for an acceptable reason
4		$8\times1+12\times1+10\times3+4\times4$	66	3	M1 for use of frequency density (eg sight of 1.6 on fd axis or 8 ÷ 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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