



General Certificate of Secondary Education

Mathematics 4302
Specification B

Module 1 Tier F 43001F

Two-Tier Practice Paper

Mark Scheme

June 2006

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The following abbreviations are used on the mark scheme:

M	Method marks awarded for a correct method.
A	Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied.
B	Marks awarded independent of method.
M dep	A method mark which is dependent on a previous method mark being awarded.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special Case. Marks awarded for a common misinterpretation which has some mathematical worth.
oe	Or equivalent.
eeoo	Each error or omission.

MODULE 1 FOUNDATION TIER

43001F

Note: Probability - Accept fraction, decimal or percentage. Do not accept ratio.

1 out of 3 or 1 in 3 penalise once on whole paper.

1(a)	30	B1	
1(b)	Friday	B1	Not 34
1(c)	22 or 16	M1	
	38	A1	
1(d)	Boys $22 + 16 + 30 + 10 + 34$ or girls $16 + 25 + 26 + 20 + 31$ or 112 or 118	M1	List must have 5 numbers and at least 3 correct or differences eg boys +6, -9, +4, -10, +3
	112 and 118	A1	Totalling differences boys -6 or girls +6
	Comparison of totals that girls are more or Graham is wrong	A1 ft	No marks for just 'No' with no working

2	P T N	B3	B1 each correct answer; allow I for N
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3	Correct method seen eg $\frac{360}{720} \times 280$ or $280 \div 2$ or 280×0.5	M1	or one correct sector on diagram with correct label
	4 or 5 correct angles seen $140^\circ, 85^\circ, 60^\circ, 45^\circ, 30^\circ$	A1	
	All 5 sectors drawn correctly	A1	$\pm 2^\circ$
	All 5 sectors labelled in correct proportion of size	B1	

4	$(0 \times 6) + (1 \times 7) + (2 \times 9) + (3 \times 4) + (4 \times 3) + (5 \times 1)$ or 54	M1	Attempt at $\sum fx$ at least 4 pairs seen
	their $54 \div 30$	M1 dep	
	1.8	A1	$60 \div 30$ with no working SC1

5(a)	$\frac{5}{20}, \frac{7}{20}, \frac{8}{20}$ or 0.25, 0.35, 0.4	B2	B1 for 2 correct
5(b)	Yes. The spinner has been spun more times	B1 dep	Idea of larger sample

6(a)	16, 12, 8, 14	B1	Frequency column completed
6(b)	Horizontal axis labelled with S, B, R, C and equal width bars	B1	Ignore gaps 3 labels sufficient
	Vertical axis numbered correctly	B1	From zero
	Bars at correct height	B1 ft	Must be from a linear scale; tolerance $\frac{1}{2}$ square
7(a)	One whole and one half symbol drawn in five bed houses	B1	
7(b)	$40 + '55' + 30 + 15$	M1	'14' \times 10 Add up symbols and multiply by 10
	140	A1 ft	
8(a)	24, 24, 24, 25, 26, 27, <u>27</u> , 29, 31, 32, 32, 34, 35, 36	M1	Ordering and indicating middle
	28	A1	
8(b)	12	B1	
9(a)	3 5 7 4 6 8 5 7 9 6 8 10	B2	B1 for 3 rows or 2 columns correct
9(b)	Indicating 8, 8, 9, 10 or sight of '4'	M1	May be indicated in table
	$\frac{4}{12}$ or $\frac{1}{3}$	A1 ft	ft from fully completed table provided answer is not zero
10	Finding prob of 2 $1 - (0.2 + 0.4 + 0.1)$ or 0.3	M1	Alternative method 0.2×20 or 0.4×20 or 0.1×20 or $4 + 8 + 2$
	$20 \times '0.3'$ (<1)	M1 dep	$20 - (4 + 8 + 2)$ or $20 - 14$
	6	A1	
11(a)	Two questions in one/Can't say yes to first part and no to second part	B1	
11(b)	Question about number of texts with time frame	B1	
	Response - Tick boxes not overlapping, no gaps, covers all possibilities	B1	