

# GCSE 2004

## *November Series*



## Mark Scheme

### Mathematics B (3302)

#### *Module 1 Tier F*

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Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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*Dr Michael Cresswell Director General*

**The following abbreviations are used on the mark scheme:**

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

**MODULE 1 FOUNDATION TIER****33001F****Note: Probability - Accept fraction, decimal or percentage. Do not accept ratio.**

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

1(a)	Vertical linear scale starting from zero up to 20	B1	Accept scale without 0 marked
	4 bars correctly labelled	B1	
	Exactly 4 bars of correct heights and equal widths	B1	Must be linear scale but condone not starting from zero
(b)	“22” + “8” + “12” + “10”	M1	Adding 4 heights condone misreads of Friday
	= 52	A1	
(c)	24 – “8”	M1	Allow misread of 1 unit on Friday Squash only
	= 16	A1	

2(a)	11	B1	
(b)	Adding at least 6 values	M1	Total of 72 – 110 → M1
	“total” ÷ 7	M1	
	= 13	A1	
(c)	Comparison of spread	B1 ft	Strict ft eg Women have a bigger range Men’s range is 11 and women’s range is 14
	Comparison of mean	B1 ft	Strict ft eg Men have a bigger mean Men’s mean is 13 and women’s mean is 9 or men have more lessons (on average)

3(a)	Attempt to add 5 values	M1	Possibly implied from answer 20 seen in (a)
	$\frac{1}{20}$	A1	oe 0.05, 5%
(b)	$\frac{19}{20}$	B1	oe 0.95, 95%

**33001F**

4	$fx$	M1	eg $1 \times 50$ seen (not 50 alone) or $2 \times 80$ or 160 or $50 \times 50(p)$ etc
	$\Sigma fx$ (= "1000")	M1 dep	Adding 'correct' 5 products 1000 → M1M1 £500 → M1M1
	"1000" $\times$ 50p – £100	M1 dep	Not $335 \times 50p$ – £100
	= £400	A1	
5(a)	3	B1	
(b)	2 (or 3) full suns	B1	
	Half sun	B1	Can only earn both marks if fully correct
6(a)	Ordering at least first 7 values and some attempt to identify middle 2 of the 12 numbers given	M1	eg ...4, 4,   6, 6, ... or 4 and 6 or (4, 6)
	5	A1	
(b)	4	B1	
7(a)	i) White	B1	
	ii) $\frac{1}{5}$	B1	oe
(b)	i) 0.5	B1	oe
	ii) $\frac{1}{6}$	B1	oe
	iii) 0	B1	Accept Zero, Nil or Impossible, no chance, $\frac{0}{\dots}$
8(a)	2	B1	Twice (02)
(b)	29	B1	
(c)	5 and 30	B1 B1	Accept 05 –1 each additional error

**33001F**

9(a)	Vertical scale linear from zero	B1	Scale up to 20 (ignore above 22) Accept scale without 0 marked
	All 4 correct heights from their linear scale	B1	Within or on class boundaries $\pm \frac{1}{2}$ square
	Correct boundaries (histogram) or correct mid-points 5, 15, 25, 35 joined by 'straight' lines (frequency polygon)	B1	Accept reasonably straight freehand lines (not curve) Ignore extremes
(b)	$10 < t \leq 20$	B1	
(c)	Overlapping intervals	B1	Accept 'no box for £0' or 'didn't spend anything' Do not accept 'range is too restrictive'