



General Certificate of Secondary Education

Mathematics 3302

Specification B

Module 3 Tier F 33003F

Mark Scheme

2006 examination – June series

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.

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 3 FOUNDATION TIER**33003F**

1	0.5	B1	
	50%	B1	
	$\frac{3}{4}$	B1	oe
	0.75	B1	

2(a)	8360	B1	Accept words
2(b)	8400	B1	Accept words

3(a)	46p	B1	
3(b)	94p	B1	
3(c)	340g = £1.21	M1	
	£1.40 – £1.21 = 19p	A1	Must show or imply subtraction
3(d)	£1.07 and 94p identified with intention to subtract	M1	
	13p or £0.13	A1	

4(a)	Any whole number pair whose product is 24	B1	Do not allow 2 by 12 or 12 by 2
4(b)	No, with any attempt at explanation	B1	YES if supported by the correct diagram B2
	24 is not a square number	B1	5 by 5 square with centre missing or 7 by 7 hollow square
4(c)	Attempts to find a quarter of 24	M1	eg $\frac{24}{4}$ oe
	6	A1	
	(‘6’ × 3) + (24 – ‘6’) × 2	M1	With or without brackets
	£54	A1	

5(a)	5.728448	B1	
5(b)	6	B1 ft	ft at least 2 significant figures

6(a)	34×3	M1	oe
	£1.02	A1	
6(b)	$5 \div 34$ or $500 \div 34$	M1	May be implied by 14.7... or 0.147... or build up to 13, 14 or 15 cartons
	Shows an answer of 14	A1	Not awarded for decimal answer
6(c)	Shows $1000 \div 34$ is 29.4...	M1	oe eg explains 24p change when doubled allows buying of further carton (M1A1) or $34 \times 28 = \text{£}9.52$
	so 29 (is more than twice 14)	A1	

7(a)	Shows a correct method for finding 17.5% of 76	M1	$\frac{17.5}{100} \times 76$ Build up method must be complete
	(£)13.3(0)	A1	76×1.175 M2
	Total with VAT = £89.30	A1	ft if M1 awarded
7(b)	$(\frac{15}{40}) \times 100$	M1	oe
	37.5	A1	oe

8(a)	92 and 8	B1	
8(b)	35 or 81	B1	
8(c)	81 and 64	B1 B1	
8(d)	60	B1	
8(e)	Identifies 81, 92 and 64	M1	
	237	A1	

9(a)	90	B1	
9(b)	24	B1	

10	Shows complete correct method	M1	$\frac{25}{100} \times 56$ or $56 \div 4$ or $56 \div 2 \div 2$
	14	A1	

11(a)	Shows a correct method for division	M1	$\begin{array}{r} 25 \\ 52 \overline{)1300} \\ 104 \\ \underline{260} \\ 260 \end{array}$ <p>oe build up method to reach 24, 25 or 26</p>
	Obtains an answer 2 for 10s digit	A1	
	25	A1	
11(b)	25	B1 ft	

12(a)	49	B1	
12(b)	$7 < \text{answer} < 8$	B1	Allow written answers

13(a)	0.9	B1	
13(b)	0.009	B1	

14(a)	$\frac{7-2}{8}$	M1	oe eg 0.875 – 0.25
	$\frac{5}{8}$	A1	oe
14(b)	0.82	B1	oe
14(c)	0.08	B1	oe

15	Converting one number to other form eg $79\% = 0.79$	B1	or could be $0.8 = 80\%$ or 79% of $100 = 79$ and 0.8 of $100 = 80$
	All 3 numbers in comparable form $\frac{3}{4} = 0.75$ with 0.8 and 0.79	B1	oe as long as in comparable form to other two
	$\frac{3}{4}$, 79% , 0.8	B1	SC1 answer only

16	Shows speed = $\frac{\text{distance}}{\text{time}}$	M1	With any attempt to substitute values
	$\frac{6}{1.5}$	M1	oe ($\frac{6}{1.3}$ gets M1M0) Scaling 2 miles in 30 minutes M2
	4	A1	

17	Intention to add $\frac{1}{2}$ and $\frac{1}{3}$	M1	oe may be implied by $\frac{5}{6}$, $\frac{10}{12}$ etc Any diagrams must be supported by arithmetic
	Multiplies their $\frac{5}{6}$ by 7	M1	$\frac{35}{6}$ or $5\frac{5}{6}$ implies M2
	6	A1	

Alt 17	Attempts to find total for one dog	M1	May be implied by $3\frac{1}{2}$ or $2\frac{1}{3}$
	Attempts to find total for both dogs and attempting to add	M1	$\frac{35}{6}$ or $5\frac{5}{6}$ implies M2
	6	A1	