



General Certificate of Secondary Education

Mathematics 3302

Specification B

Module 3 Tier F 33003F THREE TIER

Mark Scheme

2007 examination - March 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.

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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 3 FOUNDATION TIER

33003F

1(a)	5000	B1	Allow gap or comma
1(b)	Circles round 5347, 4982 and 4500 and no other circles	B3	B2 two correct, two or fewer wrong B1 one correct two or fewer wrong

2(a)	96 431	B1	
2(b)	3 digit odd number	B1	eg 419
2(c)	16 or 36 or 49 or 64	B1	
2(d)	913 or 914 or 916 or 931 or 934 or 936 or 941 or 943 or 946 or 961 or 963 or 964	B1	
2(e)	16 and 34 or 41 and 9 or 36 and 14 or 49 and 1	B1	either order
2(f)	46 and 31 or 19 and 4 or 34 and 19	B1	either order

3(a)	51.60	B1	Do not allow 51.6
3(b)	5160	B1 ft	

4(a)	$\frac{3}{10} \times 40$	M1	oe eg 0.3×40
	12	A1	SC1 28
4(b)	Explains 3 does not go into 40	B1	oe

5	3.50×5	M1	17.50
	Adds 25 to their 17.50	M1 dep	
	42.50	A1	4250 implies M2

6	$\frac{28}{100} \times 32$	M1	oe eg 0.28×32
	8.96	A1	

7	$\frac{600}{4} (= 150)$	M1	Alt $\frac{1}{4} + \frac{5}{8}$ (intention to add)
	$\frac{600}{8} \times 5 (= 375)$	M1	$= \frac{2}{8} + \frac{5}{8}$ (correct, but if 16ths, 24ths etc one numerator correct)
	$600 - (\text{their } 150 + 375)$	M1 dep	1 – their $\frac{7}{8}$ as long as at least one previous method mark obtained
	$\frac{75}{600} (= \frac{1}{8})$	A1	$\frac{1}{8}$

8(a)	56.314	B1	
8(b)	56.3	B1 ft	ft if (a) 2dp or more

9(a)	4.25×5	M1	Alt $4 \times 5 + \frac{1}{4} \times 5$ M1
	21.25	A1	
9(b)	Shelley is paid £7.50 per hour	B1	
	$\frac{\pounds 48.75}{\text{their } \pounds 7.50}$	M1	their £7.50 must be £5 or more Build up must be completely correct method.
	= 6.5	A1 ft	ft their division to 1dp or better
	= 6 hours 30 minutes	B1 ft	ft their decimal time correctly converted to minutes. Allow rounding to nearest minute. Must not be exact number of hours. 6 hours 50 minutes or 6 hours 5 minutes SC2

10(a)	32	B1	
10(b)	91	B1	
10(c)	19	B1	
10(d)	7	B1	
10(e)	÷	B1	

11(a)	0.25	B1	
11(b)	$\frac{6}{10}$ or $\frac{3}{5}$	B1	oe fraction
11(c)	$\frac{45}{100}$ or $\frac{9}{20}$	B1	

12(a)	50	B1	
12(b)	7×5	M1	35
	3 × 2 subtracted from their 35	M1	
	29	A1	
12(c)	9 questions right or 1 question wrong or 45 right 2 wrong	B2	B1 45 correct 1 wrong or 9 correct 2 wrong or 45 and 2 seen

13(a)	800	B1	
13(b)	$100 < \text{answer} < 200$	M1	
	135	A1	
13(c)	Shows fully correct method with no more than one numerical error	M2	Shows fully correct method with two numerical errors M1 Zero missing in standard method M0
	864	A1	

14(a)	sight of 87.5% or 88%	B1	or 0.875 or 0.88
	so $\frac{7}{8}$ is larger	B1 dep	
14(b)	$\frac{6}{72}$	B1	oe eg $\frac{3}{36}$, $\frac{1}{12}$

15	Sight of 8	M1	
	64	A1	Accept $60 \leq \text{answer} \leq 64$ integers or 1dp

16(a)	$80 \div 20$	M1	Scaling method - suitable method to get 10, 5, 4 or 2 hours
	4	A1	
16(b)	Their 4×24	M1	$80 + 4 \times \text{their } 4$
	96	A1 ft	

17(a)	189 720	B1	
17(b)	3720	B1	
17(c)	37 944	B1	