



## **General Certificate of Secondary Education**

# **Mathematics 3302**

## *Specification B*

**Module 3 Tier F 33003F THREE TIER**

# **Mark Scheme**

*2007 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.

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**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 3**
**FOUNDATION TIER**
**33003F**

1(a)	8652	B1	
1(b)(i)	2685	B2	B1 for any odd number using 2, 6, 8, 5 or for 2568 (the smallest number)
1(b)(ii)	2700	B1 ft	ft their (b)(i) or their (a) provided at least 4 digits
1(c)	480	B1	

2(a)	81.57	B1	
2(b)	$21.58 \times 3$	M1	$21.58 + 21.58 + 21.58$
	64.74	A1	6474 scores M1A0
2(c)	$25 \div 4.35$	M1	5.7(...) seen Adds 5 or 6 4.35s
	5	A1	Note: Answer 5 with error in working is A0
2(d)	eg it gives the impression that it is cheaper	B1	Any valid reason

3(a)	$\frac{7}{8} \times 32$	M1	oe eg $32 - \frac{32}{8}$
	28	A1	
3(b)(i)	13.69	B1	
3(b)(ii)	13.7	B1 ft	ft from any number > 1 dp seen

4(a)	3(.00)	B1	Allow B1 for 300 <b>and</b> 85 SC1 Two answers that add up to 3.85 Table takes preference
	0.85	B1	
4(b)	1.85	B1	Do not accept 185

5	$920 - 425 (= 495)$	M1	
	their $495 \div 3$	M1 dep	
	165	A1	SC2 0.165 SC3 0.165 kg with grams crossed out

6(a)	5	B1	
6(b)	Use of distance $\div$ time (with numbers substituted)	M1	eg $395 \div 3\frac{1}{2}$ $85 \div 5$ (distance must be 85, 395 or (85 + 395) time must be $1\frac{1}{2}$ , $3\frac{1}{2}$ or their (a))
	$\frac{395+85}{\text{their (a)}}$	M1	$\frac{480}{5}$ if correct
	96	A1	SC2 5760 m per h SC1 5760

7(a)	$385 \times 68 (= 26180)$	M1	M2 for $385 \times 0.68$ oe
	their $26180 \div 100$	M1	
	261.8(0)	A1	
	262.(00)	B1 ft	ft from value seen SC2 Answer 261
7(b)	$0.12 \times 385 (= 46.2)$	M1	1.12 seen Build up: $10\% = 385 \div 10 (= 38.5)$ $2\% = (38.5) \div 5 (= 7.7)$ <b>and adds</b>
	$385 + \text{their } 46.2$	M1 dep	$1.12 \times 385$
	431.2(0)	A1	SC2 Answer 61.6 SC2 Answer 431 with no working SC2 431.5(...) SC1 293.(...)

8(a)	$100 < \text{number} < 200$	B1	
8(b)	$5 < \text{number} < 6$	B1	
8(c)	9	B1	
8(d)	$\frac{3}{10}$	B1	oe fraction

9(a)	$100 (\times) 7$ or $100 (\times) 7.1$ or $99 (\times) 7$	M1	
	$693 \leq \text{answer} \leq 710$	A1	702.9 from long multiplication is M0A0
9(b)	4.9 to 5 inclusive	B1	

10(a)	93	B1	
10(b)	Obtains digit 8 in units column	M1	Complete method seen eg $730 - 130 - 20 - 2$
	578	A1	
10(c)	104	B1	
10(d)	$\frac{2}{100} \times 500$	M1	oe eg $5 \times 2$ $10\% = 500 \div 10 (= 50)$ $2\% = (50) \div 5$
	10	A1	
10(e)	8	B1	

11(a)	125	B1	
11(b)	$\frac{250 - \text{their } 125}{10}$	M1	
	12.50	A1 ft	12.5 is M1A0

12(a)	$3\frac{1}{4}$	B1	oe 3.25
12(b)	1.6	B1	oe
12(c)	35	B1	

13	$\frac{1}{4} \times 24$ or $\frac{1}{3} \times 24$	M1	6 or 8 if correct Do not allow "of" for $\times$
	$\frac{1}{4} \times 24 + \frac{1}{3} \times 24$	M1 dep	14 if correct
	10	A1	

Alt 13	$\frac{1}{4} + \frac{1}{3}$	M1	$\frac{7}{12}$ if correct $1 - \frac{1}{4} - \frac{1}{3} (= \frac{5}{12})$
	their $\frac{7}{12} \times 24$	M1 dep	14 if correct their $\frac{5}{12} \times 24$
	10	A1	

14(a)	$4 \times 3 + 3 \times 1 (+ 1 \times 0)$	M1	
	15	A1	
14(b) (i)	Won 5 Drawn 2 Lost 3	B1	SC1 5 2 0 and 4 5 0
	Won 4 Drawn 5 Lost 1	B1	SC1 5 2 - and 4 5 -
14(b) (ii)	Indicates possible outcomes of the two matches that produce an even total 1 win and 1 loss or 1 draw and 1 loss	B1	Allow: <b>exactly</b> one match is lost

15(a)	$\frac{37}{50} \times 100$ oe	M1	$\pounds 5 = \frac{100}{10} (= 10)$ $\pounds 35 = (10) \times 7 (= 70)$ $\pounds 2 = (10) \div 5 \times 2 (= 4)$ and $(70) + (4)$
	74	A1	
15(b)	$37 \div 5$	M1	$\frac{\text{their } 74}{100} \times 10$ oe
	7.40	A1	7.4 is M1A0 No ft