



General Certificate of Secondary Education

Mathematics 3302

Specification B

Module 3 Tier F 33003F

Mark Scheme

2005 examination – November 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	Costs are (£)3.90	B1	Do not accept 3.9
	(£)3.98	B1	
	(£)5.99		
	(£)2.80	B1	Do not accept 2.8 [penalise only once in question]
	Total (£)16.67	B1 ft	(at least 2 correct)

2(a)	Seven thousand five hundred [and] twenty-eight	B1	Accept seventy five hundred and twenty eight Also twenty eight Accept comma and 'and'
2(b)	7500	B1	Accept in words
2(c)	eg 13, 14	B1	Either order Any two consecutive numbers

3(a)	i) -15	B1	
3(a)	ii) 12	B1	
3(b)	-6	B1	

4(a)	39	B1	Accept in words
4(b)	39.5	B1	

5(a)	Four hundred	B1	Accept 'hundreds' or 400 or 4 hundred(s)
5(b)	Thirty thousand	B1	Accept 'ten thousands' or 30 000 or 30 thousand

6(a)	$\frac{40}{100} \times 600$	M1	oe 10% = 60 and addition of 4 of these [needs 60]
	= 240	A1	
6(b)	$600 \div 4$	M1	or 0.25×600 or $300 \div 2$
	= 150	A1	

7	Cost of lettuces is £1.80	B1	Accept 1.8, £1.8 or 180
	Tomatoes cost £2.92 – £1.80	M1	or £2.92 – their £1.80 (not 180 or 60) Must be consistent units
	= £1.12		
	Cost is $\frac{£1.12}{1.75}$	M1 dep	or their $\frac{£1.12}{1.75}$
	= 64p	A1	

8	25	B2	5^2 or 0.04	B1
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9	Time is $\frac{120}{50}$	M1	
	= 2.4 (hours)	A1	
	0.4 hours = 0.4×60 minutes	M1	
	2 hours 24 minutes	A1	2 hours 40 minutes 2 hours 4 minutes 144 minutes

10	eg $73 \Rightarrow 7300$	B1	
	Add $73 = 7373$		
	$101 \times 73 = 7373$	B1	B1 for either 1st or 3rd line B2 for all 3 lines

11	$35 \times \frac{4}{5}$	M1	
	= 28	A1	SC1 7 or 7 and 28

12(a)	$\frac{£10}{£1.50}$	M1	or counting on, at least $6 \times £1.50$
	= 6	A1	SC1 (£)9
12(b)	i) £7.57	B1	
12(b)	ii) £5 note, coins £2, 50p, 5p, 2p	B2 ft	B1 for pounds, B1 for pence SC1 correct money given in any form Do not accept two pound coins

13(a)	8×4	M1	
	= 32	A1	
13(b)	$£2.56 \div 8$	M1	
	= 32p	A1	£0.32 [only if pence deleted on answer line]

14(a)	Estimates are 80 and 5	M1	M1 for either 80 or 5
	80×5 $= 400$	A1	Accept only 400 or $80 \times 5.1 = 408$ or $79 \times 5 = 395$ With or without working
14(b)	Position on number line	B1	Accept ± 0.25

15(a)	Attempt to multiply by 2 and 30 Column method eg Sight of 7410 or 494 or sight of two of 6400, 1280 and 224	M1	
	Attempt to combine results eg 7410 and 494	M1 dep	Note: Need evidence of zeros 6400 and 1280 and 224 Need 2 of 3 correct or 7410 and 494 Need 1 of 2 correct
	7904	A1	
			or Box method M1 6000 400 1200 80 210 14 Allow two errors Addition of 6 numbers M1 dep 7904 A1
			or Napier's bones M1 middle 6 boxes, allow 2 errors M1 adding diagonals to get any 2 of 7, 9, 0, 4 A1

15(b)			Division attempted and digit 2 M1 eg $\begin{array}{r} 966- \\ (42 \times 10 =) \underline{420} \\ 546- \\ (42 \times 10) \underline{420} \\ 126- \\ (42 \times 3) \underline{126} \end{array}$	A1
	Answer	23		A1
	$42 \overline{)966}$	M1		
	$\begin{array}{r} 84 \\ \underline{126} \end{array}$	A1	Carry 12	
	23	A1	Accept any correct method of division Need not see working	
16	Cost is $\frac{\pounds 6}{30}$	M1	or $\frac{600}{30}$	
	= 0.2 or 20	A1		
	= 20 pence	B1	or $\pounds 0.20$ [not $\pounds 0.2$] SC2 for $\pounds 0.2$ Not for $\pounds 20$ or 0.2 pence	
17	Large is 3 times small pack	M1	or small is $\frac{1}{3}$ times large pack	
	$3 \times \pounds 3.20 = \pounds 9.60$		$\pounds 10.20 \div 3 = \pounds 3.40$	
			or Price per glass small 80p [or $\pounds 0.80$] large 85p [or $\pounds 0.85$] M1 both answers needed correct	
	Small pack is better value	A1		
18	Number of hours worked is $4\frac{1}{2} \times 6 = 27$	B1	or $\pounds 10 \times 4.5 = \pounds 45$ or $\pounds 10 \times 6 = \pounds 60$	
	Pay is $27 \times \pounds 10$	M1	45×6	$60 \times 4\frac{1}{2}$
	= $\pounds 270$	A1	= $\pounds 270$	

19(a)	Discount is $\text{£}42 \times \frac{1}{6}$	M1	
	= $\text{£}7$	A1	
	Price is $\text{£}35$	A1	or $\text{£}42 \times \frac{5}{6}$ M1 = $\text{£}35$ A2
19(b)	Discount is $\frac{20}{100} \times \text{£}42$	M1	or 10% = $\text{£}4.20$; 20% is $\text{£}4.20 + \text{£}4.20$ M1 [needs $\text{£}4.20$]
	= $\text{£}8.40$	A1	
	Price is $\text{£}33.60$	A1	or $\frac{80}{100} \times \text{£}42$ M1A1 = $\text{£}33.60$ A1