## 

## FUNCTIONAL SKILLS CERTIFICATE Functional Mathematics

Level 2

Mark Scheme

4368 January 2017

Version/Stage: 1.0 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

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## **Glossary for Mark Schemes**

Examinations are marked to award positive achievement.

Marks are awarded for demonstrating the following interrelated **process skills**.

**Representing** Selecting the mathematics and information to model a situation.

- **R.1** Candidates recognise that a situation has aspects that can be represented using mathematics.
- **R.2** Candidates make an initial model of a situation using suitable forms of representation.
- **R.3** Candidates decide on the methods, operations and tools, including ICT, to use in a situation.
- **R.4** Candidates select the mathematical information to use.

## **Analysing** Processing and using mathematics.

- A.1 Candidates use appropriate mathematical procedures.
- A.2 Candidates examine patterns and relationships.
- **A.3** Candidates change values and assumptions or adjust relationships to see the effects on answers in models.
- A.4 Candidates find results and solutions.
- **Interpreting** Interpreting and communicating the results of the analysis.
  - **I.1** Candidates interpret results and solutions.
  - **I.2** Candidates draw conclusions in light of situations.
  - **I.3** Candidates consider the appropriateness and accuracy of results and conclusions.
  - **I.4** Candidates choose appropriate language and forms of presentation to communicate results and solutions.

In particular, individual marks are mapped onto the following skills standards.

**Representing** Making sense of the situations and representing them. A learner can:

- **Ra** Understand routine and non-routine problems in familiar and unfamiliar contexts and situations.
- **Rb** Identify the situation or problems and identify the mathematical methods needed to solve them.
- **Rc** Choose from a range of mathematics to find solutions.
- Analysing Processing and using the mathematics. A learner can:
  - **Aa** Apply a range of mathematics to find solutions.
  - Ab Use appropriate checking procedures and evaluate their effectiveness at each stage.
- **Interpreting** Interpreting and communicating the results of the analysis. A learner can:
  - **Ia** Interpret and communicate solutions to multistage practical problems in familiar and unfamiliar contexts and situations.
  - **Ib** Draw conclusions and provide mathematical justifications.

To facilitate marking, the following categories are used:

- M Method marks are awarded for a correct method which could lead to a correct answer.
- A Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
- B Marks awarded independent of method.
- ft Follow through marks. Marks awarded following a mistake in an earlier step.
- **SC** Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
- oe Or equivalent. Accept answers that are equivalent.

eg, accept 0.5 as well as  $\frac{1}{2}$ 

Q	Answer	Mark	Comments
	48	B1	
1(a)	A	Aa dditional G	uidance

Q	Ans	wer	Mark	Comments
	Alternative methe	od 1		
	$\frac{2}{16} \text{ or } \frac{1}{8} \text{ or } 0.125$ or $1 - \frac{2}{16} \text{ or } \frac{14}{16} \text{ or } \frac{7}{8} \text{ or } 0.875$ or $24 \div 16 \text{ or } 1.5$ or $16 \div 24 \text{ or } 0.6 \text{ or } 0.7$		M1 Ra	
	24 – their $\frac{2}{16} \times 24$ or $(1 - \text{their } \frac{2}{16})$ or 24 – their 1.5 or 24 – $\frac{2}{\text{their } 0.6}$	× 24 or $\frac{14}{16}$ × 24 × 2 — or 24 – 3	M1 Rb	Fully correct method
1(b)	21		A1 <i>Aa</i>	
	Alternative method 2			
	200 ÷ 16 × 2 or 25	550 ÷ 16 × 2 or 68.75	M1 <i>Ra</i>	200 can be 250 or 100 or 553 or 2 or 1
	200 ÷ 24 or 8.3 and (200 – their 25) ÷ their 8.3	550 ÷ 24 or 22.9 and (550 – their 68.75) ÷ their 22.9	M1 Rb	200 can be 250 or 100 or 553 or 2 or 1 Fully correct method
	21		A1 Aa	
		Ad	ditional G	uidance
	The sum of any co	ombination of 200, 28	50, 100, 2	and 1 may be used for 200

Q	Answer		Mark	Comments
	1			
	Alternative meth	od 1		
	16 × 10 or 160	24 × 10 or 240	M1 <i>Ra</i>	Number of cookies
	their 160 ÷ 4 or 40	their 240 ÷ 8 or 30	M1 <i>Ra</i>	Number of bags of cookies
	their 40 × 1.35 or 54	their 30 × 1.75 or 52.5(0)	M1 Rb	Selling price of bags of cookies Must be a number of bags, not a number of cookies
	their 40 × 0.02 (+ 19.5(0)) or 0.8(0) or 20.3(0)	their 30 × 0.02 (+ 19.5(0)) or 0.6(0) or 20.1(0)	M1 Rc	Cost of bags or total costs for cookies
1(c)	their 54 – their 0.8(0) or 53.2(0) or their 54 – their 20.3(0) or 33.7(0)	their 52.5(0) – their 0.6(0) or 51.9(0) or their 52.5(0) – their 20.1(0) or 32.4(0)	M1 Rc	Selling price of bags – cost of bags or selling price of bags – total cost Number of bags cannot be zero or one Must be from a different number of bags for large and small cookies if both attempted
	their 53.2(0) – the or their 33.7(0) –	ir 51.9(0) their 32.4(0)	M1 Aa	Difference in profits
	1.3(0) and Yes		A2 Ib Ib	<ul> <li>A1 1.3(0) or 53.2(0) and 51.9(0)</li> <li>or 33.7(0) and 32.4(0)</li> <li>A1ft Correct decision for their value with 1st, 2nd, 3rd and 6th M1 gained</li> </ul>

Q	Ans	swer	Mark	Comments
	Alternative meth	od 2		
	16 × 10 or 160	24 × 10 or 240	M1 <i>Ra</i>	Number of cookies
	their 160 ÷ 4 or 40	their 240 ÷ 8 or 30	M1 <i>Ra</i>	Number of bags of cookies
	their 40 × 1.35 or 54	their 30 × 1.75 or 52.5(0)	M1 Rb	Selling price of bags of cookies Must be a number of bags, not a number of cookies
	their 54 – their 52.5(0) or 1.5(0)		M1 <i>R</i> c	Difference in selling prices
1(c)	their 40 × 0.02 (+ 19.5(0)) or 0.8(0) or 20.3(0)	their 30 × 0.02 (+ 19.5(0)) or 0.6(0) or 20.1(0)	M1 Rc	Cost of bags or total costs for cookies
	their 1.5(0) – their their 0.6(0) or their 1.5(0) – t their 20.1(0)	0.8(0) + heir 20.3(0) +	M1 Aa	Difference in selling prices – difference in cost of bags or difference in selling prices – difference in total costs Number of bags cannot be zero or one Must be from a different number of bags for large and small cookies
	1.3(0) and Yes		A2 Ib Ib	<ul> <li>A1 1.3(0) or 53.2(0) and 51.9(0) or 33.7(0) and 32.4(0)</li> <li>A1ft Correct decision for their value with 1st, 2nd, 3rd and 4th M1 gained</li> </ul>

Q	Ans	wer	Mark	Comments
	Alternative metho	od 3		
	16÷4 or 4	24÷8 or 3	M1	Number of bags of cookies (1 batch)
			Ra	
	their 4 × 1.35	their 3 × 1.75	M1	Selling price of bags of cookies (1 batch)
	or 5.4(0)	or 5.25	Rb	Must be a number of bags, not a number of cookies
	their 4 × 0.02	their 3 × 0.02		Cost of bags or total costs for cookies
	(+ 19.5(0) ÷ 10)	(+ 19.5(0) ÷ 10)	M1	(1 batch) Allow 19 5(0) for 19 5(0) $\div$ 10
	or 0.08	or 0.06	Rc	
	or 2.03	or 2.01		
	their 5.4(0) –	their 5.25 –		Selling price of bags – cost of bags
	their 0.08	their 0.06		or selling price of bags – total cost
1(c)	or 5.32	or 5.19	M1	
	or	or	Rc	Number of bags cannot be zero or one
	their $5.4(0) -$	their $5.25 -$		for large and small cookies if both
	or 3 37	or 3.24		attempted
	their $5.32 -$ their 5	.19	M1	Difference in profits (1 batch)
	or their 3.37 – the	IF 3.24 OF 0.13	Aa	
	10 × their 0.13		M1	Difference in profits (10 batches)
			Ra	
	1.3(0) and Yes			A1 1.3(0) or 53.2(0) and 51.9(0)
			A2	or 33.7(0) and 32.4(0)
			Ib Ib	A1ft Correct decision for their value with 1st, 2nd, 5th and 6th M1 gained

Q	Ans	swer	Mark	Comments	
	Alternative meth	od 4			
	16÷4 or 4	240 ÷ 8 or 3	M1 Ra	Number of bags of cookies (1 batch)	
	their 4 × 1.35 or 5.4(0)	their 3 × 1.75 or 5.25	M1 Rb	Selling price of bags of cookies (1 batch) Must be a number of bags, not a number of cookies	
	their 5.4(0) – their	5.25 or 0.15	М1 <i>Аа</i>	Difference in selling prices	
	their 4 × 0.02 (+ 19.5(0) ÷10) or 0.08 or 2.03	their 3 × 0.02 (+ 19.5(0) ÷10) or 0.06 or 2.01	M1 Rc	Cost of bags or total costs for cookies (1 batch) Allow 19.5(0) for 19.5(0) ÷ 10	
1(c)	their 0.15 – their 0 their 0.06 or their 0.15 – the their 2.01 or 0.13	9.08 + eir 2.03 +	M1 <i>R</i> c	Difference in selling prices – difference in cost of bags (1 batch) or difference in selling prices – difference in total costs (1 batch) Number of bags cannot be zero or one Must be from a different number of bags for large and small cookies	
	10 × their 0.13		M1 <i>Ra</i>	Difference in profits (10 batches)	
	1.3(0) and Yes		A2 Ib Ib	<ul> <li>A1 1.3(0) or 53.2(0) and 51.9(0) or 33.7(0) and 32.4(0)</li> <li>A1ft Correct decision for their value with 1st, 2nd, 3rd and 6th M1 gained</li> </ul>	
	Additional Guidance				
	Adding costs to se eg (alt 1) 35.3(0)	elling price can score - 33.6(0) = 1.7(0)	a maximu M1 M1 I	um of M4 M1 M1 M0 M0 A0	

Q	Answer	Mark	Comments
			-
	120 + 4 × 140	M1	
	or 120 + 560 or 680	Ra	
	£680	A1	Must see £ symbol
2(a)		la	SC1 £660 or £1060
		Additional	Guidance
	Mark holistically with 2(a) check		

2(a) Check	Reverse calculation eg $(680 - 120) \div 4 = 140$ or alternative method eg $120 + 140 + 140 + 140 + 140$ = 680	B1ft <i>Ab</i>	ft their calculation Must reverse to 120 or 140 or 4 or 5 or 0	
	Additional Guidance Mark holistically with 2(a)			

Q	Ansv	ver	Mark	Com	ments
	4.87 and 65.7		B1 Aa		
	their 65.7 × 0.2(0) or 13.14	0.8	M1 Ra	their 65.7 can be 47.	1 or 83.1 or 39.2
	their 65.7 – their 13.14 or 52.56	0.8 × their 65.7 or 52.56	M1 Aa	actual fuel efficiency their 13.14 cannot be Award if method seer	(ƒ) 20 or 0.2 n for 20% in first M1
	62 × 5 × 46 or 14 260	62 × their 4.87 ÷ their 52.56 or 5.7	M1 Ra	miles ( <i>m</i> )	miles × cost ÷ fuel their 4.87 can be 4.96 their 52.56 can be 65.7
2(b)	their 14 260 × their 4.87 ÷ their 52.56	5 × 46 × their 5.7	M1 Rc	miles × cost ÷ fuel their 4.87 can be 4.96 their 52.56 can be 65.7	
	[1320, 1321.30] ar	nd Yes	A2ft Ib Ib	A1ft [1320, 1321.30] A1ft Correct conclus 2nd, 3rd and 4t Only ft their 4.87 and	ion for their value with h M1 gained their 65.7
		Ac	ditional	Guidance	
	Using (4.87 and) 47	7.1 1st M1 9.42	2nd M1 3	37.68 1843.() and Ye	s B0 M4 A2ft
	Using (4.87 and) 83	3.1 1st M1 16.62	2nd M1 6	66.48 1044.() or 1045	and No B0 M4 A2ft
	Using (4.87 and) 39	9.2 1st M1 7.84	2nd M1 3	31.36 2214.() and Ye	es B0 M4 A2ft
	Using 4.96 (and 65	.7) 1345.() or 134	46 and Ye	S	B0 M4 A2ft
	Using 4.96 and 47.	1 1st M1 9.42	2nd M1 3	37.68 1877.() and Yo	es B0 M4 A2ft
	Using 4.96 and 83.	1 1st M1 16.62	2nd M1 6	6.48 1063.() or 106	4 and No B0 M4 A2ft
	Using 4.96 and 39.2	2 1st M1 7.84	2nd M1 3	31.36 2255.() and Ye	es B0 M4 A2ft

Q	Answer	Mark	Comments
	Alternative method 1		
	89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 or 1(h) 29(min) and 1(h) 38(min) and 1(h) 17(min) and 1(h) 26(min) and 1(h) 35(min) and 1(h) 50(min) and 1(h) 28(min) and 1(h) 15(min)	M1 Ra	At least 6 correct
2(c)	$\frac{\text{their 5}}{8} \text{ or } 0.625$ or $\frac{\text{their 3}}{8} \text{ or } 0.375$	M1 Rc	
	$\frac{\text{their 5}}{8} \times 120$ or $(1 - \frac{\text{their 3}}{8}) \times 120$	M1 Aa	
	75 and No or $\frac{75}{120}$ and No (and 89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 and 90)	A2 Ib Ib	A1 75 or $\frac{75}{120}$ (and 89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 and 90) A1ft Correct conclusion for their value with all M marks gained

Q	Answer	Mark	Comments	
	Alternative method 2			
	89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 or 1(h) 29(min) and 1(h) 38(min) and 1(h) 17(min) and 1(h) 26(min) and 1(h) 35(min) and 1(h) 50(min) and 1(h) 28(min) and 1(h) 15(min)	M1 Ra	At least 6 correct	
	$\frac{\text{their 5}}{8} \text{ or } 0.625$	M1 <i>Rc</i>		
2(c)	their 5 ÷ 8 or 0.625 and 85 ÷ 120 or 0.7(08) or 0.7(1)	М1 <i>Аа</i>	Converts $\frac{\text{their 5}}{8}$ and $\frac{85}{120}$ to a comparable form	
	0.625 and 0.7(08) or 0.7(1) and No (and 89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 and 90)	A2 Ib Ib	<ul> <li>A1 0.625 and 0.7(08) or 0.7(1)</li> <li>(and 89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 and 90)</li> <li>A1ft Correct conclusion for their value with all M marks gained</li> </ul>	
	Additional Guidance			

Q	Answer	Mark	Comments
[			
	Alternative method 3		
2(c)	89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 or 1(h) 29(min) and 1(h) 38(min) and 1(h) 17(min) and 1(h) 26(min) and 1(h) 35(min) and 1(h) 50(min) and 1(h) 28(min) and 1(h) 15(min)	M1 Ra	At least 6 correct
	$\frac{85}{120} \times 8$	M2 Rc Aa	
	[5.6, 5.7] and 5 and No (and 89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 and 90)	A2 Ib Ib	<ul> <li>A1 [5.6, 5.7] and 5</li> <li>(and 89 and 98 and 77 and 86 and 95 and 110 and 88 and 75 and 90)</li> <li>A1ft Correct conclusion for their values with all M marks gained</li> </ul>

Q	Answer	Mark	Comments		
	Alternative method 1				
	128 × 25 or 3200 or 53.3(h) or 40 × 30 or 1200 or 20(h)	M1 Ra			
	their 3200 + their 1200 or 4400 or 73.3(h)	M1 Rb	Must be two times added		
	2 pm – 8.30 am – 20 – 20 or 5(h) 30(min) – 20 – 20 or 290 or 4.8(h)	M1 Aa			
	their 4400 ÷ their 290	M1 <i>R</i> c	their 4400 could be 3200 or 1200		
	[15.1, 15.2] or 15	A1 <i>Aa</i>	May be implied		
	16	A1ft <i>Ib</i>	Rounds up their [15.1, 15.2] or the answer to their calculation Must score M4		
3(a)	Alternative method 2				
	128 × 25 or 3200 or 53.3(h) or 40 × 30 or 1200 or 20(h)	M1 Ra			
	2 pm – 8.30 am – 20 – 20 or 5(h) 30(min) – 20 – 20 or 290 or 4.8(h)	M1 Aa			
	their 3200 ÷ their 290 or 11.(0) or their 1200 ÷ their 290 or 4.(1)	M1 Rc			
	their 11.(0) + their 4.(1)	M1 <i>Rb</i>	Must be two numbers of cleaners added		
	[15.1, 15.2] or 15 or 11.(0) and 4.(1)	A1 Aa	May be implied		
	16	A1ft <i>Ib</i>	Rounds up their [15.1, 15.2] or the answer to their calculation Must score M4		

Q	Answer	Mark	Comments		
	Alternative method 3				
	2 pm – 8.30 am – 20 – 20 or 5(h) 30(min) – 20 – 20 or 290 or 4.8(h)	M1 Aa			
	their 290 ÷ 25 or 11.6 or their 290 ÷ 30 or 9.6 or 9.7	M1 Ra	Standard rooms per cleaner or deluxe rooms per cleaner		
	128 ÷ their 11.6 or 11.(0) or 40 ÷ their 9.6 or 4.(1)	M1 <i>R</i> c			
3(a)	their 11.(0) + their 4.(1)	M1 Rb	Must be two numbers of cleaners added		
	[15.1, 15.2] or 15 or 11.(0) and 4.(1)	A1 Aa	May be implied		
	16	A1ft <i>Ib</i>	Rounds up their [15.1, 15.2] or the answer to their calculation Must score M4		
	Additional Guidance				
	Allow decimal times for M marks only	/			

Q	Answer	Mark	Comments		
	4 × 18 or 72 or 3 × 8 or 24 or 2 × 11 or 22 or 1 × 9 their 72 + their 24 + their 22 + their 9	M1 <i>Ra</i> M1	Not implied by 127 Allow one error		
3(b)	72 + 24 + 22 + 9 = 127 and $127 \div 50 = 2.54$ or $4 \times 18 + 3 \times 8 + 2 \times 11 + 1 \times 9 =$ 127 and $127 \div 50 = 2.54$ or $\frac{72 + 24 + 22 + 9}{50} = 2.54$ or $\frac{4 \times 18 + 3 \times 8 + 2 \times 11 + 1 \times 9}{50} = 2.54$ or $2.54 \times 50 = 127$ and $72 + 24 + 22 + 9 = 127$ or $2.54 \times 50 = 127$ and $4 \times 18 + 3 \times 8 + 2 \times 11 +$ $1 \times 9 = 127$ or $2.54 \times 50 = 127$ and $127 - 72 - 24 - 22 - 9 = 0$ or $2.54 \times 50 = 127$ and $127 - 72 - 24 - 22 - 9 = 0$ or $2.54 \times 50 = 127$ and $127 - 4 \times 18 - 3 \times 8 - 2 \times 11$ $-1 \times 9 = 0$	A1 Aa	Do not allow division by 5 followed by division by 10		
	Additional Guidance				
	Totals seen next to table but other incorrect method used scores zero				
	Only 127 ÷ 50 = 2.54 scores M0 M1 A0				

Q	Answer	Mark	Comments	
	0.75 × 168 or 126	M1 Ra	Number of rooms	
	2.54 × 365 or 927.1 or 2.54 × their 126 or 320.04 or 365 × their 126 or 45 990	M1 Rb	their 126 could be 168	
	their 927.1 × their 126 or their 320.04 × 365 or their 45 990 × 2.54 or 116 814(.6) or 116 815	M1 Rb	Number of cartons their 126 could be 168	
3(c)	their 116 814(.6) ÷ 240 or 486.7 or 487	M1 <i>R</i> c	Number of boxes their 116 814(.6) can be 927.1 or 320.04 or 45 990	
	their 487 × 12.6(0)	M1 Aa	Cost of boxes Must be number of boxes × 12.6(0)	
	6136.(20) and No or 6132.() or 6133 and No	A2 Ib Ib	<ul> <li>A1 6136.(20) or 6132.() or 6133</li> <li>A1ft Correct conclusion for their value with 2nd, 3rd, 4th and 5th M1 gained</li> </ul>	
	Additional Guidance			
	Use of 360 days 6048.76 and No 6048.76	M5 A0 A1ft M5 A0 A0ft		

Q	Answer	Mark	Comments
4(a)	9 ≤ number ≤ 12	B1	May be on the diagram or within a product
	and cm	la	Correct units must be seen
	Additional Guidance		

4(b)	Net of a cuboid with 5 or 6 faces	B1 <i>la</i>	
	Edge ≥ 15.2 cm labelled in correct position at least once	B1 <i>Aa</i>	
	Fully correct net of cuboid with length and width of all 6 rectangles correctly labelled at least once	B1ft <i>Ia</i>	Only ft their floor length in (a) Appropriate edges must be labelled ≥ 15.2 cm SC2 Fully correct apart from 12.7 cm ≤ edges < 15.2 cm instead of edges ≥ 15.2 cm
	Additional Guidance		
	Ignore flaps throughout		

Q	Answer	Mark	Comments		
	Alternative method 1				
	6 × 4 or 24	M1	area of window		
		Ra			
	0.16 × 112 or 17(.92) or 18	M1	Allow 112 to be 112 + 6 × 4 or 136		
	and 0.25 × 112 or 28	Aa	or 112 – 6 × 4 or 88		
	24 and 17(.92) or 18	A2	A1 24 and 17(.92) or 18 and 28		
	and 28 and Yes	lb lb	A1ft Correct conclusion for their values with M2 scored		
	Alternative method 2				
	6 × 4 or 24	M1	area of window		
		Ra			
	their 24 $(\times 100)$	M1	Allow 112 to be 112 + 6 × 4 or 136		
	112	Aa	or 112 – 6 × 4 or 88		
4(c)	or 0.21(4) or 21(.4)				
(0)	21(.4) and Yes	40	A1 21(.4)		
	Or	h lb	or 0.21(4) and 0.16 and 0.25		
	0.21(4) and 0.16 and 0.25 and fes		with M2 scored		
	Additional Guidance				
	2nd M1				
	Use of 136 for 112				
	Alt 1 0.16 × 136 or 21.(76) or 21.8 or 22				
	and 0.25 × 136 or 34				
	Alt 2 their 24 (× 100) or 0.17(6) or 17.(6)%				
	Use of 88 for 112				
	Alt 1 0.16 × 88 or 14.(08) or 14.1				
	and 0.25 × 88 or 22				
	Alt 2 $\frac{\text{their } 24}{88}$ (× 100) or 0.27(2) or	or 0.273 or	<sup>-</sup> 27.(2)% or 27.3%		

Q	Answer	Mark	Comments
4(d)	$\frac{5}{9}(46 - 32) \text{ or } \frac{5}{9} \times 14$ or $\frac{5}{9}(85 - 32) \text{ or } \frac{5}{9} \times 53$ 7.7 or 7.8 or 8 or 29.4 or 29	M1 Rc A1 Aa	Allow 0.55 or 0.56 for $\frac{5}{9}$
	8 and 29	A1ft <i>Ib</i>	ft their 7.7 and their 29.4 correctly rounded if M1 A0 and two values seen
	Additional Guidance		
	Both values must need rounding for A	1ft	

	2000 ÷ 71 or 28.(1) or 28.2 or 28 × 71 = 1988 or 29 × 71 = 2059	M1 Aa	
4(e)	28	A1	Embedded answer scores M1 A0
		lb	
	Additional Guidance		
	Mark holistically with 4(e) check		

4(e) Check	or alternative method Ad	Ab Iditional G	Guidance
4(e) Check	or alternative method	Ab	
	Reverse calculation eg1 28.(1) × 71 = 2000 eg2 2000 ÷ 28 = 71.(4)	B1ft	ft their calculation

Q	Answer	Mark	Comments
		1	-
	2000 ÷ 48 or 41.(6) or 41.7 or 42		
	or 41 × 48 = 1968	M1	
	or 41 × 49 = 2009	Aa	
	or 42 × 48 = 2016		
	their 41 – their 28	M1	their 28 from (e)
4(f)		lb	their 41 and their 28 may be decimals
	13	A1ft	Only ft their 28 from (e)
		Aa	Allow full marks for 13 from 42 – 29
	Additional Guidance		