FUNCTIONAL SKILLS CERTIFICATE

Functional Mathematics

4368

Level 2

Mark scheme

January 2019

Version: 1.0 Final

I91A4368/MS

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.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' 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.

Further copies of this mark scheme are available from aqa.org.uk

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 $\frac{1}{2}$

Question	Answer	Mark	Comments
1 (a)	21.6 × 5 (+) 21.7 × 15 (+) 21.8 × 5 (+) 21.9 × 3 (+) 22.0 × 2 or 108 (+) 325.5 (+) 109 (+) 65.7 (+) 44 or 652.2	M1 *Ra*	allow one error or omission
	their 652.2 ÷ 30	M1 *Rb*	
	21.74	A1 *Aa*	allow 21.7 or 22 with working

Question	Answer	Mark	Comments
1 (b)	**Alternative method 1**		
	385 × 150 or 57 750	M1 *Ra*	144 150 or 333 700 implies M2 can be in £ or p
	48 × 1800 or 86 400	M1 *Rb*	
	7944 × 150 × 0.33 or 393 228	M1 *Aa*	allow 7944 × 150 × 33 or 39 322 800
	their 393 228 – (their 57 750 + their 86 400 + 189 550) or their 393 228 – their 333 700	M1 *Aa*	their 57 750 can be 385 their 86 400 can be their 86 400 × 150 or 12 960 000 or 1800 their 189 550 can be their 189 550 × 150 or 28 432 500 their 333 700 can be 41 450 250 their 393 228 can be 2621.52 both must be in £ or both must be in p e.g. their 39 322 800 – their 33 370 000
	59 528 and no	A2 *Ib* *Ib*	A1 59 528 or A1ft correct decision for their value must score 4th M mark and profit made

	Additional Guidance
1 (b)	Examples 1 385 × 150 = 57 750 M1 48 × 1800 = 86 400 M1 7944 × 0.33 = 2621.52 M0 57 750 + 86 400 + 189 550 = 333 700 333 700 - 2621.52 = 331078.48 M1 331078.48 loss A0 2 385 × 150 = 57 750 M1 48 × 1800 × 150 = 12 960 000 M0 7944 × 0.33 × 150 = 393 228 M1 57 750 + 12 960 000 + 189 550 = 13 207 300 393 228 - 12 960 000 = –1 256 672 M1 1 256 672 loss A0 3 385 × 150 = 57 750 M1 48 × 1800 × 150 = 12 960 000 M0 7944 × 0.33 × 150 = 393 228 M1 189 550 × 150 = 28 432 500 57 750 + 12 960 000 + 28 432 500 = 41 450 250 41 450 250 - 393 228 = 410 57 022 M1 410 57 022 loss A0 4 Total cost = (£)333 700 M2 Income = 39 322 800(p) M1 39 322 800 (p) – (£)333 700 M0 38 989 100 and yes A0 **£ or p** Allow £ or p for method marks that involve one sum of money only For method marks involving more than one sum of money the monetary units must be all £ or all p For A2 with answer in p (or A1 or A1ft) must convert £60 000 to 6 000 000 p

Question	Answer	Mark	Comments
1 (c)	2.25 + 7 × 1.64 or 2.25 + 11.48	M1 *Rb*	
	13.73	A1 *Aa*	
Check	reverse method, e.g. (their 13.73 – 2.25) ÷ 7 = 1.64 or their 13.73 – 2.25 = 11.48 and 11.48 ÷ 7 = 1.64 or estimation, e.g. 2.3 + 7 × 1.6 -= 13.5	B1ft *Ab*	
1 (c)	**Additional Guidance**		
	Misreads Award M1A0 for one error in reading from table 2.25 + 7 × 1.8 or 2.25 + 12.6 or 14.85 or 2.48 + 7 × 1.64 or 2.48 + 11.48 or 13.96 **Mark holistically** i.e. Award up to M1A1 for working given in Check space Award B1ft for correct Check in main answer space		

Question	Answer	Mark	Comments

1 (d)	12 + 2 or 14	M1 *Ra*	
	6 × 1 or 5 × 2 or 4 × 3	M1 *Aa*	rectangle with perimeter their 14m allow dimensions on diagram if clear allow rectangle with perimeter 12m if method shown award if seen – ignore other work implies 1st M1
	(maximum area) 4 × 3 and 12 and no	A2ft *Ib* *Ib*	ft their 13.73 from 1(c) A1ft 4 × 3 and 12 (and yes) or 6 × 1 and 6 and no or 5 × 2 and 10 and no
	Additional Guidance		
	Gate not included If method shown 3 × 3 and 12 and no can score M0M1A1ft **Answers only** 4 × 3 and 12 and no scores M2A2ft 4 × 3 and 12 or 4 × 3 and 12 and yes scores M2A1ft 6 × 1 and 6 and no scores M2A1ft 5 × 2 and 10 and no scores M2A1ft		

Question	Answer	Mark	Comments
2 (a)	**Alternative method 1**		
	8.49 or 9.00	B1 *Ra*	time tram leaves Queens Road or time tram arrives at Piccadilly Gardens
	their 9.12	B1ft *Rc*	ft their 9.00 must be a leaving time at Piccadilly Gardens implied by arrives at 9.45
	9.45	B1ft *Aa*	ft their 9.12 must be an arrival time at Trafford Centre
	9.55 and yes or 15 minutes (to walk to shop) and yes or 5 minutes early and yes	B2 *Ib* *Ib*	for B2 must score B1B1ft B1 9.55 or 15 minutes (to walk to shop) or 5 minutes early must score B1 or B1ft correct conclusion for their 9.45 + 10 minutes must score B1 and their 9.45 must be an arrival time

Question	Answer	Mark	Comments

2 (a)	**Alternative method 2**		
	9.50	B1 *Ra*	latest time bus must arrive at Trafford Centre
	their 9.45 or their 9.12	B1ft *Rc*	ft their 9.50 identifies correct bus
	their 9.01 or their 8.49	B1ft *Aa*	ft their 9.45 or their 9.12 identifies correct tram
	8.44 and yes	B2 *Ib* *Ib*	must score B1B1ft to award B2 B1 8.44 or B1ft correct conclusion for their 8.44 must score B1

2 (a)	**Alternative method 3**		
	5 + 4 or 9 or 8.49 or 5 + 4 + 11 or 20 or 9.00	B1 *Ra*	
	their 9 + 12 or their 20 + 12 or 32 or 9.12	B1ft *Rc*	ft their 20 or their 9.00
	their 32 + 33 or 65 or their 9.45	B1ft *Aa*	ft their 32 or their 9.12 identifies correct bus
	65 + 10 and 80 or 75 and 80 or 9.55 and yes or 8.40 + 75 minutes or 9.55 and yes	B2 *Ib* *Ib*	must be completely correct to award B2 B1 75 and 80 or 9.55 or B1ft correct conclusion for their 9.45 or their 75 and 80 must score B1

	Additional Guidance
2 (a)	Allow any correct version of times e.g. 12 minutes to 9 ft their tram and bus times for B2ft must be completely correct **Examples** 1 Going to Old Trafford 8.49 (or 9.00) B1 9.12 (or 9.30) B1ft 9.40 and yes B1ft 2 Alt 2 9.50 B1 9.45 (or 9.12) B1ft 8.49 (or 9.01) B1ft 8.40 B1ft 3 Wrong tram time but arrives at 9.55 8.56 B0 9.12 B1ft 9.45 B1ft 9.55 and yes B1ft 4 Wrong tram time and one wrong bus time 8.45 (or 8.56) B0 9.12 B1ft 9.42 B0ft 9.52 and yes B1ft 5 8.49 – 9.00 B1 9.12 B1ft 9.32 B0 (not an arrival time) 9.42 B0

Question	Answer	Mark	Comments
2 (b)	**Alternative method 1**		
	2 × 4 × 7.38 or 59.04	M1 *Ra*	
	4 × 2 + 3.7 × 2 or 8 + 7.4 or 15.4	M1 *Rb*	
	their 59.04 – their 15.4 or their 59.04 – their 8 – their 7.4	M1 *Aa*	their 15.4 can be 7.7 or 30.8 their 59.04 can be 29.52 or 118.08
	£43.64	A1 *Ia*	must see £ symbol SC3 correct value with misread of 7.38 SC2 correct value with misread of 7.38 and incorrect money notation
	Alternative method 2		
	4 × 7.38 or 29.52	M1 *Ra*	
	4 + 3.7 or 7.7	M1 *Rb*	
	(their 29.52 – 7.7) × 2 or 21.82 × 2	M1 *Aa*	
	£43.64	A1 *Ia*	must see £ symbol SC3 correct value with misread 7.38 SC2 correct value with misread 7.38 and incorrect money notation

	Additional Guidance		
2 (b)	**Misread 7.38**		
	7.38 → 8.75	2 × 4 × 8.75 – 15.4 = £54.60	SC3
		2 × 4 × 8.75 – 15.4 = 54.60 or £54.6	SC2
	7.38 → 4.20	2 × 4 × 4.2 – 15.4 = £18.20	SC3
		2 × 4 × 4.2 – 15.4 = 18.60 or £18.6	SC2
	7.38 → 5.90	2 × 4 × 5.9 – 15.4 = £31.80	SC3
		2 × 4 × 5.9 – 15.4 = 31.80 or £31.8	SC2
	7.38 → 7.83	2 × 4 × 7.83 – 15.4 = £47.24	SC3
		2 × 4 × 7.83 – 15.4 = 47.24	SC2

Question	Answer	Mark	Comments
2 (c)	3 × 4 × 8.75 (– their 43.64) or 3 × 4 × 8.75 (– 60) or (60 + their 43.64 and) 3 × 4 × 8.75	M1 *Ra*	or 105 (– their 43.64) or 105 (– 60) or (60 + their 43.64 and) 105
	61.36 and yes or 45 and yes or 103.64 and 105 and yes	A2ft *Ib* *Ib*	ft their 43.64 from 2(b) A1 61.36 or 45 or 103.64 and 105 or A1ft correct conclusion for their value(s) must score M1
	Additional Guidance		
	Award M1 for 3 × 4 × 8.75 or 105 Follow through from 2(b) – examples 51.34 → 53.66 and no M1A2ft 28.25 → 76.76 and yes M1A2ft 59.04 → 48.96 and no M1A0		

2 (d)	21 105 – 11 850 or 9255	M1 *Ra*	
	their 9255 ÷ 100 × 20	M1 *Rb*	
	(£)1851	A1 *Aa*	

Question	Answer		Mark	Comments
3 (a)	759 ÷ 10 or 75.9 or 389 ÷ 10 or 38.9	759 – 389 or 370	M1 *Ra*	
	their 75.9 – their 38.9	their 370 ÷ 10	M1 *Rb*	
	37		A1 *Aa*	SC1 any value with digits 37 (not 37)
Check	alternative or reverse method, e.g. their 37 × 10 = 370 and their 370 + 389 = 789 estimation, e.g. 760 ÷ 10 or 76 and 390 ÷ 10 or 39 and 76 – 39 = 37		B1ft *Ab*	
3 (a)	**Additional Guidance**			
	Mark holistically i.e. Award up to M1A1 for working given in Check space Award B1ft for correct Check in main answer space Award B1ft for correct Check in main answer space **Misreads** Do not allow			

<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="4">3 (b)</td><td>5 × 5 + 3 × 1
or
6 × 5 – 1 × 1 – 1 × 1
or
6 × 3 + 1 × 5 + 1 × 5
or
28</td><td>M2
Ra
Rc</td><td>M1 5 × 5 or 25
or
3 × 1 or 3
or
6 × 5 or 30
or
1 × 1 or 1
or
6 × 3 or 18
or
1 × 5 or 5</td></tr>
<tr><td>their 28 × 3 ÷ 14
or
their 84 ÷ 14
or
their 2 × 3</td><td>M1
Aa</td><td>substitution in formula
can be from any value of their area
3 can be 5 or 6</td></tr>
<tr><td>6 and Chester</td><td>A2
Ib
Ib</td><td>A1 6
or
A1ft correct log burner for their 6
must score M1M0 or M0M1 and use formula with their area</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="3">Substituting into formula
Any value of their area can be from no or incorrect working including use of perimeter
Allow height = 5 or height = 6; do not allow height(s) of log burner(s)
Must use14 correctly
A1ft
Must score M1M0 or M0M1
Example
Area = 20 M0
20 × 5 ÷ 14 = 7.1 M1 (any value of their area and height = 5)
7.1 and Dover A1ft (correct for 7.1)</td></tr>
</table>

Question	Answer	Mark	Comments
3 (c)	**Alternative method 1**		
	4 × 5 × 1.5 or 20 × 1.5 or 30 (kg) or 4 × 5 × 0.8 or 20 × 0.8 or 16 (kg)	M1 *Ra*	amount of wood **or** amount of smokeless fuel used
	their 30 ÷ 10 or 3 (bags) or their 16 ÷ 8 or 2 (bags)	M1 *Rb*	bags of wood **or** bags of smokeless fuel needed per week
	their 30 ÷ 10 or 3 (bags) and their 16 ÷ 8 or 2 (bags)	M1 *Rc*	bags of wood **and** bags of smokeless fuel needed per week
	5.4(0) x their 3 or 16.2(0) or 4.4(0) x their 2 or 8.8(0)	M1 *Aa*	
	their 16.2(0) – their 8.8(0)	M1 *Aa*	
	7.4(0) and yes	A2 *Ib* *Ib*	A1 7.4(0) or A1ft correct conclusion for their value must score 5th M1

Question	Answer		Mark	Comments
3 (c)	**Alternative method 2**			
	5.4(0) ÷ 10 or 0.54 or 4.4(0) ÷ 8 or 0.55		M1 *Ra*	price of wood per kg **or** price of smokeless fuel per kg
	their 0.54 × 1.5 or 0.81 or their 0.55 × 0.8 or 0.44		M1 *Rb*	cost of wood per hour **or** cost of smokeless fuel per hour
	their 0.54 × 1.5 or 0.81 and their 0.55 × 0.8 or 0.44		M1 *Rc*	cost of wood per hour **and** cost of smokeless fuel per hour
	their 0.81 × 4 × 5 or their 0.81 × 20 or 16.2(0) or their 0.44 × 4 × 5 or their 0.44 × 20 or 8.8(0)	their 0.81 – their 0.44	M1 *Aa*	
	their 16.2(0) – their 8.8(0)	their 0.37 × 4 × 5 or their 0.37 × 20	M1 *Aa*	
	7.40) and yes		A2 *Ib* *Ib*	A1 7.4(0) or A1ft correct conclusion for their value

Question	Answer	Mark	Comments
3 (c)	**Alternative method 3**		
	4 × 5 × 1.5 or 20 × 1.5 or 30 (kg) or 4 × 5 × 0.8 or 20 × 0.8 or 16 (kg)	M1 *Ra*	amount of wood **or** amount of smokeless fuel used
	5.4(0) ÷ 10 or 0.54 or 4.4(0) ÷ 8 or 0.55	M1 *Rb*	cost of wood per kg **or** cost of smokeless fuel per kg
	their 30 × 0.54 or 16.20 or their 16 × 0.55 or 8.80	M1 *Rc*	cost of wood per week **or** cost of smokeless fuel per week
	their 30 × 0.54 or 16.20 and their 16 × 0.55 or 8.80	M1 *Aa*	cost of wood per week **and** cost of smokeless fuel per week
	their 16.2(0) – their 8.8(0)	M1 *Aa*	
	7.4(0) and yes	A2 *Ib* *Ib*	A1 7.4(0) or A1ft correct conclusion for their value must score 5th M1

	Additional Guidance
3 (c)	8.8(0) or 16.2(0) scores M3 8.8(0) and 16.2(0) scores M4 Examples 1 20 ÷ 0.8 = 25 and 20 ÷ 1.5 = 13.3 M0 25 ÷ 8 = 3.125 and 13.3 ÷ 10 = 1.33 M2 3.125 → 4 and 1.33 → 2 4.4 × 4 = 17.6 and 5.4 × 2 = 10.8 M1 17.6 – 10.8 = 6.8 M1 No A1ft 2 20 × 0.8 × 1000 = 16 000 and 20 × 1.5 × 1000 = 30 000 M0 16 000 ÷ 8 = 2000 and 30 000 ÷ 10 = 3000 M2 4.4 × 2000 = 8800 and 5.4 × 3000 = 16 200 M1 16 200 – 8800 = 7 400 M1 Yes A1ft **Other methods** Any method starting with one of 4, 5, 1.5 and/or 0.8, 10 and/or 8 and 5.4 and/or 4.4 and combines them in any order with correct operations is worth M4. Appropriate operations are ×4, ×5, ×1.5 and/or ×0.8, ÷10 and/or ÷8 and ×5.4 and/or ×4.4 Example 4 × 0.8 = 3.2 and 4 × 1.5 = 6 kg used per day 4.4 ÷ 8 = 0.55 and 5.4 ÷ 10 = 0.54 cost per kg 3.2 × 0.55 = 1.76 and 6 × 0.54 = 3.24 cost/day 3.24 – 1.76 = 1.48 extra cost of using wood per day 1.48 × 5 = 7.4 extra cost of using wood per week Yes

Question	Answer	Mark	Comments
4 (a)	16	B1 *Aa*	

4 (b)	**Alternative method 1**			
	7.2 ÷ 1.8 or 4		M1 *Ra*	
	their 4 × 700 or 2800	700 ÷ 1000 or 0.7	M1 *Rb*	
	their 2800 ÷ 1000 or 2.8 or 2.5 × 1000 or 2500	their 0.7 × their 4	M1 *Aa*	
	2.8 and no or 2800 and 2500 and no		A2 *Ib* *Ib*	A1 2.8 or 2800 and 2500 or A1ft correct decision for their value(s) must score M3 SC2 4 batches of apricots and (only) 3 batches of sugar with incomplete working

Question	Answer	Mark	Comments
4 (b)	**Alternative method 2**		
	2.5 × 1000 or 2500 or 700 ÷ 1000 or 0.7	M1 *Ra*	
	their 2500 ÷ 700 or 2.5 ÷ their 0.7 or 3(.57…) or 3.6 or 3 rem 400 or 3 rem 0.4	M1 *Rb*	allow 3 with method
	7.2 ÷ 1.8 or 4 or their 3.57 … × 1.8 or 6.4 …	M1 *Aa*	or 7200 ÷ 1800 their 3.57 … × 1.8 can be 3 × 1.8 or 5.4
	3(.57…) or 3.6 and 4 and no or 6.4… or 5.4 and no	A2 *Ib* *Ib*	A1 3(.57…) or 3.6 and 4 or 6.4 … or 5.4 or A1ft correct decision for their values must score M3 SC2 4 batches of apricots and (only) 3 batches of sugar with incomplete working …

Question	Answer	Mark	Comments
4 (b)	**Alternative method 3**		
	2.5 × 1000 or 2500 or 700 ÷ 1000 or 0.7	M1 *Ra*	
	their 2500 ÷ 700 or 2.5 ÷ their 0.7 or 3(.57…) or 3.6 3 × their 0.7 or 2.1 or 3 × 700 or 2100	M1 *Rb*	
	1.8 × 3	M1 *Aa*	
	(can only use) 5.4 kg (apricots and make) 3 (batches)	A2 *Ib* *Ib*	A1 5.4 and 3 or A1ft correct decision for their values must score M3 SC2 4 batches of apricots and (only) 3 batches of sugar with incomplete working …

<table>
<tr><td rowspan="7">4 (b)</td><td colspan="5">Alternative method 4</td></tr>
<tr><td>2.5 ÷ 7.2
or
[0.34, 0.35]</td><td>7.2 ÷ 2.5 or 2.88</td><td>M1
Ra</td><td colspan="2"></td></tr>
<tr><td colspan="2">700 ÷ 1000 or 0.7
or
1.8 × 1000 or 1800</td><td>M1
Rb</td><td colspan="2"></td></tr>
<tr><td>their 0.7 ÷ 1.8
or
700 ÷ their 1800
or
[0.38, 0.39]</td><td>1.8 ÷ their 0.7
or
their 1800 ÷ 700
or
[2.5, 2.6]</td><td>M1
Aa</td><td colspan="2"></td></tr>
<tr><td>[0.34, 0.35]
and
[0.38, 0.39]
and
no</td><td>2.88
and
[2.5, 2.6]
and
no</td><td>A2
Ib
Ib</td><td colspan="2">A1 [0.34, 0.35] and [0.38, 0.39]
or
2.88 and [2.5, 2.6]
or
A1ft correct decision for their values must score M3
SC2 4 batches of apricots and (only) 3 batches of sugar with incomplete working</td></tr>
<tr><td colspan="5">Additional Guidance</td></tr>
<tr><td colspan="5">Correct conversion g ↔ kg can be implied, e.g..
7.2 ÷ 1.8 = 4 M1
2.5 ÷ 700(g) = 3.57 M2 conversion g ↔ kg implied
4 and 3.57 and no A2</td></tr>
</table>

Question	Answer	Mark	Comments
4 (b)	**Alternative method 5**		
	7.2 ÷ 1.8 or 4	M1 *Ra*	
	2.5 × 1000 or 2500 or 700 ÷ 1000 or 0.7	M1 *Rb*	
	2500 ÷ their 4 or 625 or 2.5 ÷ their 4 or 0.625	M1 *Aa*	
	625 and no or 0.625 and 0.7 and no	A2 *Ib* *Ib*	A1 625 or 0.625 and 0.7 or A1ft correct decision for their value(s) must score M3 SC2 4 batches of apricots and (only) 3 batches of sugar with incomplete working
	Additional Guidance		
	Correct conversion g ↔ kg can be implied, e.g. 7.2 ÷ 1.8 = 4 M1 2.5 ÷ 700(g) = 3.57 M2 conversion g ↔ kg implied 4 and 3.57 and no A2		

Question	Answer	Mark	Comments
4 (c)	17.75 × 16 ÷ 11 or 284 ÷ 11	M1 *Ra*	allow 17 × 16 ÷ 11 or 272÷ 11 or 24.7(…)
	25.8(1) or 25.82	A1 *Aa*	or 11 × 25 = 275 (and 11 × 25 = 286
	25	B1ft *Ia*	ft their 25.8(1)
	Additional Guidance		
	25 jars with no working scores M1A1B1ft Example 17 × 16 = 272 272 ÷ 11 = 24.72 M1A0 24 B1ft		

Question	Answer	Mark	Comments
4 (d)	**Alternative method 1**		
	2.2(0) + (0).11 + (0).70 + (0).03 or 3.04	M1 *Ra*	allow one error in converting p to £ e.g. 2.2(0) + (0).11 + (0).70 + (0).3 allow multiplying all values by their 25 from 4(c) e.g. M1 55 + 2.75 + 17.5 + 0.75 or 76 M1 their 76 ÷ 100 × 70
	their 3.04 ÷ 100 × 70	M1 *Aa*	
	2.12(8) or 2.13 and yes	A2 *Ib* *Ib*	A1 2.12(8) or 2.13 or A1ft correct decision for their values must score 2nd M1 and attempt total
	Alternative method 2		
	2.2 + 0.11 + 0.7 + 0.03 or 3.04	M1 *Ra*	allow one error in converting p to £ e.g. 2.2(0) + (0).11 + (0).70 + (0).3 allow multiplying all values by their 25 from 4(c) e.g. M1 55 + 2.75 + 17.5 + 0.75 or 76 M1 55 ÷ their 76 (× 100) or 0.72 …
	2.2 ÷ their 3.04 (× 100) or 0.72 …	M1 *Aa*	
	72 …and yes	A2 *Ib* *Ib*	A1 72… or A1ft correct decision for their value must score 2nd M1 and attempt total

	Additional Guidance
	Working in pence 220 + 11 + 70 + 3 or 304 M1 their 304 ÷ 100 × 70 M1 212(.8) or 213 and yes A2 **Examples** 1 2.2 + 0.11 + 0.70 + 0.3 = 3.31 M1 (one error) 3.31 ÷ 100 × 70 = 2.317 M1 No A1ft 2 55 + 2.75 + 17.5 + 0.75 = 76 M1 (multiplying by 25 from 4(c)) 0.7 × 76 = 53.2 M1 53.2 < 55 Yes A2