AQA

FUNCTIONAL SKILLS CERTIFICATE
Functional Mathematics

Level 2

Mark Scheme

4368
June 2017

Version: 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.

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 $\frac{1}{2}$

Q	Answer	Mark	Comments
1(a)	**Alternative Method 1**		
	flight 1 → 3½ (h) or 3 (h) 30 (min) or flight 2 → 2¼ (h) or 2 (h) 15 (min) or flight 3 → 3⅓ (h) or 3 (h) 20 (min) or 9 (h) 5 (min) or $9^{1}/_{12}$ (h)	M1 *Ra*	allow e.g. 3.3 or 3.5 for 3 (h) 30 (min)
	their 3½ + their 2¼ + their 3⅓ (+ 26) or their $9^{1}/_{12}$ (+ 26) or their 3 (h) 30 (min) + their 2 (h) 15 (min) + their 3 (h) 20 (min) (+ 26 (h)) or 9 (h) 5 (min) (+ 26 (h))	M1 *Rc*	
	$35\frac{1}{12}$ (h) and Yes or 35 (h) 5 (min) and Yes	A2 *Ib* *Ib*	A1 $35\frac{1}{12}$ (h) or 35 (h) 5 (min) or A1ft correct decision for their total time with M2 scored
	Additional Guidance		
	Allow both 35.08 and 35.05 (h) for 35 h 5 min Do **not** allow 35.5 for 35 (h) 5 (min) or 9.5 for 9 (h) 5 (min) **Using decimal times** can score M marks only unless recovered Examples (a) 3.3 + 2.15 + 3.2 = 8.65 8.65 + 26 = 34.65 No M2A0 (b) 3.3 + 2.15 + 3.2 = 8.65 8.65 + 26 = 35.5 Yes M2A0 (c) 3.3 + 2.15 + 3.2 = 8.65 8.65 + 26 = 35.05 Yes M2A2 (d) 26 + 9.05 = 35.5 Yes M2A1ft (e) 26 + 9.05 = 35.05 M2A1		

Q	Answer	Mark	Comments
1(a)	**Alternative Method 2**		
	flight 1 → 3½ (h) or 3 (h) 30 (min) or flight 2 → 2¼ (h) or 2 (h) 15 (min) or flight 3 → 3⅓ (h) or 3 (h) 20 (min) or 9 (h) 5 (min) or $9^{1}/_{12}$ (h)	M1 *Ra*	allow e.g. 3.3 or 3.5 for 3 (h) 30 (min)
	their 3½ + their 2¼ + their 3⅓ or their $9^{1}/_{12}$ or their 3 (h) 30 (min) + their 2 (h) 15 (min) + their 3 (h) 20 (min) or 35 (h) – 26 (h) or 9 (h)	M1 *Rc*	
	$9\frac{1}{12}$ (h) and 9 (h) and Yes or 9 (h) 5 (min) and 9 (h) and Yes	A2 *Ib* *Ib*	A1 $9\frac{1}{12}$ (h) or 9 (h) 5 (min) and 9 (h) or A1ft correct decision for their total time with M2 scored
	Additional Guidance		
	Allow both 9.08 and 9.05 (h) for 9 h 5 min Do not allow 9.5 for 9 (h) 5 (min) **Using decimal times** can score M marks only unless recovered For example,		
	(a) 3.3 + 2.15 + 3.2 = 8.65 35 – 26 = 9 No M2A0 (b) 3.3 + 2.15 + 3.2 = 8.65 8.65 = 9.5 35 – 26 = 9 Yes M2A1ft		(c) 3.3 + 2.15 + 3.2 = 8.65 8.65 = 9.05 35 – 26 = 9 Yes M2A2

Q	Answer	Mark	Comments
1(b)	5155	B1 *Aa*	
	Additional Guidance		

1(c)	3198 ÷ 3.9	M1 Rb	
	820	A1 Aa	
	Additional Guidance		
	Ignore subsequent work		
1(c)	3200 ÷ 4 = 800	B1ft Ab	must see calculation
	Additional Guidance		
	Mark holistically e.g. award M1A1 if 820 seen in check space		

Q	Answer	Mark	Comments
1(d)	**Alternative method 1**		
	4 × 7 + 3 × 9 or 28 + 27 or 55	M1 *Ra*	can be embedded, for example, 28 × 4 × 80 ÷ 100 + 27 × 4 × 80 ÷ 100 28 × 42 + 27 × 42
	their 55 × 4 × 135 × 80 ÷ 100 or 23 760	M2 *Rc* *Aa*	M1 their 55 × 4 or 220 or their 55 × 135 or 7425 or 4 × 135 or 540 or 80 ÷ 100 × their 55 or 44 or 80 ÷100 × 4 or 3.2 or 80 ÷ 100 × 135 or 108 or their 55 × 4 × 135 or 29 700 or 80 ÷ 100 × their 55 × 4 or 176 or 80 ÷ 100 × their 55 × 135 or 5940 or 80 ÷ 100 × 4 × 135 or 432 or their 55 cannot be 28 or 27
	their 55 × 42 or 2310	M1 *Rb*	implied by 8010
	their 23 760 – their 2310 – 5700 or their 23 760 – their 8010	M1 *Aa*	their 23 760 can be their 29 700
	15 750 and No	A2 *Ib* *Ib*	A1 15 750 or A1ft correct decision for their value - must score 5th M1 and make a valid attempt at calculating 80%
	Additional Guidance		
	critical values are 55 (scores M1), 29 700 (scores M2) and 23 760 (scores M3) 80% **not** calculated can score M1M1M1M1M0A0 max If their 55 = 28 or 27 use Alt 2		

Q	Answer	Mark	Comments
1(d)	**Alternative method 2**		
	4 × 7 or 28 or 3 × 9 or 27	M1 *Ra*	
	their 28 × 4 × 135 × 80 ÷ 100 or 12 096 or their 27 × 4 × 135 × 80 ÷ 100 or 11 664	M2 *Rc* *Aa*	M1 their 28 × 4 or 112 or their 27 × 4 or 108 or their 28 × 135 or 3780 or their 27 × 135 or 3645 or 4 × 135 or 540 or 80 ÷ 100 × their 28 or 22.4 or 80 ÷ 100 × their 27 or 21.6 or 80 ÷100 × 4 or 3.2 or 80 ÷ 100 × 135 or 108 or their 28 × 4 × 135 or 15 120 or their 27 × 4 × 135 or 14 580 or 80 ÷ 100 × their 28 × 4 or 89.6 or 80 ÷ 100 × their 27 × 4 or 86.4 or 80 ÷ 100 × their 28 × 135 or 3024 80 ÷ 100 × their 27 × 135 or 2916 or 80 ÷ 100 × 4 × 135 or 432
	their 28 × 42 or 1176 or their 27 × 42 or 1134	M1 *Rb*	implied by 8010
	their 12 096 + their 11 664 – their 1176 – their 1134 – 5700	M1 *Aa*	their 12 096 can be their 15 120 and their 11 664 can be their 14 580
	15 750 and No	A2 *Ib* *Ib*	A1 15 750 or A1ft correct decision for their value - must score 5th M1 and make a valid attempt at calculating 80%

Q	Answer	Mark	Comments

	Additional guidance
	If their 55 = 28 only or their 55 = 27 only use Alt 2 can score M1M2M1 max

1(d)	**Alternative method 3**		
	4 × 7 + 3 × 9 or 28 + 27 or 55	M1 *Ra*	can be embedded, for example, 28 × 4 × 80 ÷ 100 + 27 × 4 × 80 ÷ 100 28 × 42 + 27 × 42
	their 55 × 4 × 135 or 29 700	M1 *Rb*	
	their 55 × 42 or 2310	M1 *Rb*	implied by 8010
	their 29 700 – their 2310 – 5700 or their 29 700 – their 8010 or 21 690	M1 *Aa*	
	80 ÷ 100 × their 21 690	M0 *Rc*	
	17 352 and Yes	A1ft *Ib*	correct decision for their value must score M4
	Additional Guidance		
	This mark scheme involves a common error – working out 80% in the wrong place It can score a maximum of 5 marks (M4A1ft) 21 690 → M4A0		

Q	Answer	Mark	Comments
1(d)	**Alternative method 4**		
	4 × 7 + 3 × 9 or 28 + 27 or 55	M1 *Ra*	
	4 × 135 × 80 ÷ 100 or 432	M1 *Aa*	
	5700 ÷ their 55 or [103.63, 103.64]	M1 *Rb*	their 432 – 42 or 390
	their 432 – 42 – their [103.63,103.64] or [286.3, 286.4]	M1 *Aa*	their 390 × their 55 or 21 450
	their [286.3, 286.4] × their 55	M1 *Rc*	their 21 450 – 5700
	[15 746.5, 15 752] and No	A2 *Ib* *Ib*	A1 [15 746.5, 15 752] or A1ft correct decision for their value - must score 5th M1 and make a valid attempt at calculating 80%

Q	Answer	Mark	Comments
2 (a)	**Alternative method 1**		
	2700 ÷ 100 × 15 or 2700 ÷ 100 × 20	M1 *Ra*	2700 ÷ 100 × [15, 20]
	2700 ÷ 100 × 15 = 405 and 2700 ÷ 100 × 20 = 540	A1 *Aa*	
	Alternative method 2		
	405 ÷ 2700 (× 100) = 0.15 or 15(%) or 540 ÷ 2700 (× 100) = 0.2 or 20(%)	M1 *Ra*	
	405 ÷ 2700 × 100 = 15(%) and 540 ÷ 2700 × 100 = 20(%)	A1 *Aa*	
	Additional Guidance		
	Working from 10% can score full marks if full method shown For example (a) (10% of 2700 =) 2700 ÷ 10 = 270 (5% of 2700 =) 270 ÷ 2 = 135 (20% of 2700 =) 2 × 270 = 540 (calories) (15% of 2700 =) 270 + 135 = 405 (calories) M1A1 (b) 270 ÷ 2 = 135 2 × 270 = 540 (calories) 270 + 135 = 405 (calories) M1A0 (c) 270 + 135 = 405 or 270 + 270 = 540 M1A0 (d) 1% = 27 27 × 15 = 405 and 27 × 20 = 540 M1A0 (e) 1% = 2700 ÷ 100 = 27 27 × 15 = 405 and 27 × 20 = 540 M1A1		

Q	Answer	Mark	Comments
2 (b)	works out calories in two servings of any muesli or works out calories in two servings of yoghurt	M1 *Aa*	e.g. 2 × 222 or 444 or 170 + 219 or 389 or 2 × 50 or 100
	adds calories in a complete breakfast at least once	M1 *Ia*	e.g. their 444 + their 100 + 48 + 10 or 602
	clearly communicated breakfast with correct total calories between 405 and 540 Muesli, e.g. 2 Brand X can be implied by stating brand X together with 2 × 170 or 340 2 yoghurts can be implied by stating yoghurt together with 2 × 50 or 100	A1 *Ia*	e.g. 2 Brand X and 2 yoghurts and apple juice and tea and 536 (calories) or 2 Brand X and 2 yoghurts and cranberry juice and tea and 498 (calories)

2 (b)

Additional Guidance

Muesli/calories (M1)		M2 combinations			
		AJ & coffee	AJ & tea	CJ & coffee	CJ & tea
2W	444	444+100+111 or 655	444+100+96 or 640	444+100+73 or 617	444+100+58 or 602
2X	340	340+100+111 or 551	**340+100+96 or 536**	**340+100+73 or 513**	**340+100+58 or 498**
2Y	438	438+100+111 or 649	438+100+96 or 634	438+100+73 or 611	438+100+58 or 596
2Z	376	376+100+111 or 587	376+100+96 or 572	376+100+73 or 549	**376+100+58 or 534**
W + X	392	392+100+111 or 603	392+100+96 or 588	392+100+73 or 565	**392+100+58 or 550**
W + Y	441	441+100+111 or 652	441+100+96 or 637	441+100+73 or 614	441+100+58 or 599
W + Z	410	410+100+111 or 621	410+100+96 or 506	410+100+73 or 583	410+100+58 or 568
X + Y	389	389+100+111 or 600	389+100+96 or 585	389+100+73 or 562	389+100+58 or 547
X + Z	358	358+100+111 or 669	358+100+96 or 554	**358+100+73 or 531**	**358+100+58 or 516**
Y + Z	407	407+100+111 or 618	407+100+96 or 603	407+100+73 or 580	407+100+58 or 565

Each shaded box can score M2A1 if combinations are fully communicated and M2A0 if not.

All other combinations score M2 max

The 2nd M1 can be awarded for an incorrect total as long as the correct method is shown

Q	Answer	Mark	Comments
2 (c)	80 ÷ 1000 × 325 or 26 or 0.26	M1 *Rb*	cost of oats must use 1000
	1.4(0) ÷ 100 × 35 or 49 or 0.49	M1 *Rc*	cost of nuts
	their 26 + their 49 + 96 or 171(p) or 0.26 + 0.49 + 0.96 or (£)1.71	M1 *Aa*	total cost (3 components) must be all in pence or all in £
	2.94 – their 1.71 or 294 – their 171 **and** their 1.71 + 1.2(0) or their171 + 120	M1 *Aa*	
	(£)1.23 and Yes or 123p and Yes **and** (£)2.91 and Yes or 291p and Yes	A2 *Ib* *Ib*	A1 (£)1.23 or 123p **and** (£)2.91 or 291p A1ft correct conclusion for their value must score M0M1M1M1 or M1M0M1M1 SC1 (£)0.22 or 22p SC2 (£)0.22 or 22p and No SC3 (£)4.05 and No

Q	Answer	Mark	Comments
2 (d)	$(\frac{2}{5} =) 900 \div 3 \times 2$ or $900 \times 5 \div 3 - 900$ or 600	M1 *Rb*	
	their $600 \div (4 + 1)$ or 120	M1 *Rc*	their 600 cannot be 900
	their 120×4	M1 *Aa*	
	480 (g)	A1 *Aa*	SC2 720 from $900 \div (4 + 1) \times 4$ seen

Q	Answer	Mark	Comments
3 (a)	**Alternative method 1**		
	(0 × 16 (+)) 1 × 14 (+) 2 × 11 (+) 3 × 44 (+) 4 × 13 (+) 5 × 2 or 14 (+) 22 (+) 132 (+) 52 (+) 10 or 230	M1 *Ra*	allow one error or omission
	their 230 ÷ 100	M1 *Aa*	
	2.3 and Yes	A2 *Ib* *Ib*	A1 2.3 or A1ft correct conclusion for their mean must score M2
	Alternative method 2		
	(0 × 16 (+)) 1 × 14 (+) 2 × 11 (+) 3 × 44 (+) 4 × 13 (+) 5 × 2 or 14 (+) 22 (+) 132 (+) 52 (+) 10 or 230	M1 *Ra*	allow one error or omission
	1.7 × 100 or 170	M1 *Aa*	
	230 and 170 and Yes	A2 *Ib* *Ib*	A1 230 and 170 or A1ft correct conclusion for their values must score M2
	Additional guidance		
	Using 0 × 16 = 16 gives 246 ÷ 100 = 2.46 and Yes and can score M2A1ft		

Q	Answer	Mark	Comments
3 (b)	15 × 5 × 2 = 150	B1 *Aa*	must see full working e.g. 15 × 5 = 75 and 75 + 75 = 150
	Additional guidance		
	Do **not** award where part of the calculation is done with method not shown e.g. 30 × 5 = 150		

Q	Answer	Mark	Comments
3 (c)	**Alternative method 1**		
	8 ÷ 100 × 150 or 12 or 10 ÷ 100 × 150 or 15 or 32 ÷ 100 × 150 or 48 or 38 ÷ 100 × 150 or 57 or 12 ÷ 100 × 150 or 18	M1 *Rb*	Attempt to base the number of each sandwich made on proportions in table
	their 12 × 1.4 or 16.8 or their 15 × 1.6 or 24 or their 48 × 3 or 144 or their 57 × 2 or 114 or their 18 × 3 or 54	M1 *Rc*	their 12, 15, 48 etc can all be the same value e.g. 30 or the number of students from table the total of their 12, 15, 48 etc need not be 150
	their 12 × 1.4 or 16.8 and their 15 × 1.6 or 24 and their 48 × 3 or 144 and their 57 × 2 or 114 and their 18 × 3 or 54	M1 *Aa*	total values must be for 150 sandwiches and numbers of each sandwich must not be all the same and the numbers of each sandwich must be in an equivalent order to the values in the table
	their 16.8 + their 24 + their 144 + their 114 + their 54	M1 *Aa*	must add 5 values
	(£)352.8(0) and Yes	A2 *Ib* *Ib*	A1 (£)352.8(0) or A1ft correct conclusion for their value must score 2nd and 4th M1 and be for 150 sandwiches

Q	Answer	Mark	Comments
3 (c)	**Alternative method 2**		
	150 ÷ 100 or 1.5	M1 *Rb*	
	8 × 1.4 or 11.2 or 10 × 1.6 or 16 or 32 × 3 or 96 or 38 × 2 or 76 or 12 × 3 or 36	M1 *Rc*	
	their 11.2 × their 1.5 or 16.8 and their 16 × their 1.5 or 24 and their 96 × their 1.5 or 144 and their 76 × their 1.5 or 114 and their 36 × their 1.5 or 54	M1 *Aa*	total values must be for 150 sandwiches or their (11.2 + 16 + 96 + 76 + 36) × their 1.5 or their 235.2 × their 1.5
	their 16.8 + their 24 + their 144 + their 114 + their 54	M1 *Aa*	must add 5 values
	(£)352.8(0) and Yes	A2 *Ib* *Ib*	A1 (£)352.8(0) or A1ft correct conclusion for their value must score 3rd and 4th M1 and be for 150 sandwiches
	Additional guidance		
	235.2(0) seen scores M0M1M0M1A0		

Q	Answer	Mark	Comments

3 (d)	**Alternative method 1** (bar chart)			
	Axes labelled	B1 *Ra*	Vertical – accept number or frequency Horizontal – bars must be labelled	
	Correct vertical scale	B1 *Rb*	eg 1 cm → 5	
	Equal width bars drawn to scale with equal gap between them	B1 *Aa*	Allow vertical lines Allow no gap between vertical axis and first bar	Correct heights are Salmon → 17 Prawn → 25 Tuna → 17 Vegetable → 10 None → 31
	Title	B1 *Ia*	E.g. (Type of) Sushi or Answer to Q C Allow if horizontal axis is labelled (Type of) Sushi	
	Alternative method 2 (pie chart)			
	one angle calculated (or drawn) correctly or sectors labelled in correct order of size	B1 *Ra*		
	All angles calculated (or drawn) correctly	B1 *Rb*		
	their angles drawn correctly ± °2	B1 *Aa*	Correct angles are Salmon → 61.2° Prawn → 90° Tuna → 61.2° Vegetable → 36° None → 111.6°	
	Title	B1 *Ia*		

Q	Answer	Mark	Comments
3(d)	**Alternative method 3** (pictogram)		
	Chooses appropriate symbol and describes in key	B1 *Ra*	
	Correct number of symbols for one item (horizontal or vertical)	B1 *Rb*	
	Correct number of symbols for all items (horizontal or vertical) with items correctly labelled	B1 *Aa*	
	Title	B1 *Ia*	
	Additional guidance		
	If either bar chart or pictogram is drawn in blank space and on grid mark the best Must be accurate if either is drawn in blank space only Frequency polygon can score B1B1B0B1 max		

Q	Answer	Mark	Comments
4 (a)	3.4 × 2.5 + 1.5 × 1.4 = 10.6 or 1.4 × 4 + 2 × 2.5 = 10.6 or 4 × 3.4 – 1.5 × 2 = 10.6 or 1.5 × 1.4 + 1.4 × 2.5 + 2 × 2.5 = 10.6	B2 *Ra* *Aa*	B1 3.4 × 2.5 or 8.5 or 1.5 × 1.4 or 2.1 or 1.4 × 4 or 5.6 or 2 × 2.5 or 5 or 4 × 3.4 or 13.6 or 1.5 × 2 or 3 or 1.4 × 2.5 or 3.5
4 (b)	10.6 × 2.4 × 141 or 25.44 × 141	M1 *Ra*	
	3587(.04)	A1 *Aa*	
	600 (mm)	B1ft *Ia*	ft correct radiator for their 3587 seen
	Additional Guidance		
	Do not accept areas or radiators if they are obtained directly from the table in the Data Sheet Misreads of the room factor can score B1ft only		

Q	Answer	Mark	Comments

<table>
<tr><td rowspan="11">4 (c)</td><td colspan="4">Alternative method 1</td></tr>
<tr><td>their 10.6 ÷ 1.72 or 6.16 or 6.2 or 7</td><td>M1
Ra</td><td colspan="2">ft their 10.6 from 4(a)</td></tr>
<tr><td>(3.4 + 4) × 2
or
4 + 3.4 + 2.5 + 2 + 1.5 + 1.4
or
14.8</td><td>M1
Rb</td><td></td><td rowspan="2">M2 is implied by 8 strips seen with correct or no perimeter</td></tr>
<tr><td>their 14.8 ÷ 2 or 7.4 or 8</td><td>M1
Aa</td><td>their 8 × 2 > their 14.8
their 14.8 must be a length</td></tr>
<tr><td>their 7 × 23.8(0) or 166.6(0)
or
their 8 × 1.65 or 13.2(0)</td><td>M1
Ia</td><td colspan="2">their 7 and their 8 must be integers either correctly rounded down or correctly rounded up from their 6.16 or their 7.4
their 14.8 need not be a length</td></tr>
<tr><td>their 7 × 23.8(0) + their 8 × 1.65 + 17.95
or
200 – their 7 × 23.8(0) – their 8 × 1.65</td><td>M1
Ia</td><td colspan="2">their 7 and their 8 must be integers correctly rounded up from their 6.16 or their 7.4
their 14.8 need not be a length</td></tr>
<tr><td>(£)197.75 and Yes
or
(£)20.2(0) and Yes</td><td>A2ft
Ib
Ib</td><td colspan="2">ft their 10.6 from 4(a)
A1ft (£)197.75 or (£)20.2(0)
or
A1ft correct conclusion for their value
must score 1st, 3rd and 5th M marks</td></tr>
<tr><td colspan="4">Additional Guidance</td></tr>
<tr><td colspan="4">Answers with no rounding can score M1M1M1 max

Examples</td></tr>
<tr><td>10.6 ÷ 1.72 = 6.16 so 7 packs
7 × 23.8 = £166.60
<u>10.6</u> ÷ 2 = 5.3 so 6 packs
6 × 1.65 = £9.90
166.6 + 9.9 + 17.95 = 194.45
Yes
M1M0M0M1M1A0 (3 marks)
The perimeter is not a length</td><td colspan="2">10.6 ÷ 1.72 = 6.16 so 7 packs
7 × 23.8 = £166.60
<u>2.5 + 1.4 + 4 + 3.4 = 11.3</u>
11.3 ÷ 2 = 5.65 so 6 packs
6 × 1.65 = £9.90
166.6 + 9.9 + 17.95 = 194.45
Yes
M1M0M1M1M1A1ft (5 marks)
The perimeter is a length</td><td>10.6 ÷ 1.72 = 6.16 so 7 packs
7 × 23.8 = £166.60
2.5 + 2 + 1.5 + 1.4 + 4 + 3.4 = <u>14.7</u>
14.7 ÷ 2 = 7.35 so 8 packs
8 × 1.65 = £13.20
166.6 + 13.2 + 17.95 = 197.75
Yes
M1M1M1M1M1A1ft (6 marks)
The perimeter is incorrect but from correct method</td></tr>
</table>

Q	Answer	Mark	Comments
4 (c)	**Alternative method 2**		
	(3.4 + 4) × 2 or 4 + 3.4 + 2.5 + 2 + 1.5 + 1.4 or 14.8	M1 *Rb*	
	their 14.8 ÷ 2 or 7.4	M1 *Aa*	M2 is implied by 8 strips seen
	their 8 × 1.65 + 17.95 or 31.15	M1 *Ia*	their 8 must be an integer either rounded down or rounded up from their 7.4
	(200 – (their 31.15)) ÷ 23.8(0) or 7.0(9..)	M1 *Ra*	their 31.15 does not have to be calculated from an integer value for 7.4
	their 7 × 1.72	M1 *Ia*	their 7 must be an integer rounded down from their 7.0(9)
	12.04 and Yes	A2ft *Ib* *Ib*	ft their 10.6 from 4(a) A1ft 12.04 or A1ft correct conclusion for their value must score 2nd, 3rd and 5th M marks
	Additional Guidance		
	7 × 1.72 = 12.04 and Yes cannot score full marks unless the method for 7.0(9 …) is seen		

Q	Answer	Mark	Comments
4 (d)	7.75 × 18 or 139.5	M1 *Ra*	
	£139.50	A1 *Ia*	must use correct money notation
4 (d) check	their 139.5(0) ÷ 18 = 7.75 or their 139.5(0) ÷ 7.75 =18 or $\frac{3}{4}$ ×18 =13.5 and 7 × 18 + 13.5 = 139.5(0)	B1ft *Ab*	allow rounding to 1 significant figure 8 × 20 = 160

Q	Additional Guidance
4 (d)	Check Use of 7.75 can be considered a different method as use of $7^3/_4$ if full method for $7^3/_4$ is shown Mark holistically e.g. award M1A1 if £139.50 seen in check space