

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS

09865

TASK AND ANSWER BOOKLET PRACTICE PAPER 1

TIME: 1 HOUR 30 MINUTES

INSTRUCTIONS

Fill in all the boxes below. Make sure your personal details are entered correctly. Use **BLOCK LETTERS**.

Your surname or family name

Your first forename (if any)

Your second forename (if any)

Date of birth

Centre name

Centre number

Your OCR candidate number

At the beginning of this booklet you will find tear off Resource Documents. You will need to refer to these documents to complete the tasks.

You will also need:

- a pen with black ink
- a calculator
- a ruler

YOU HAVE 1 HOUR AND 30 MINUTES TO COMPLETE THE THREE TASKS

For each task, make sure that you:

- read the questions carefully before starting
- write your answers in this booklet
- clearly show how your working leads to your answers

2 marks are available in each task when you show you have checked your work.

When you have finished, hand this booklet and all the Resource Documents to the supervisor.

Ofqual Qualification Reference Number: 500/8910/9

FOR EXAMINER USE ONLY		
Question No	Mark	Total
TASK A		
1	/6	/20
2	/3	
3	/5	
4	/6	
TASK B		
1	/5	/20
2	/7	
3	/8	
TASK C		
1	/3	/20
2	/3	
3	/9	
4	/5	
Total	/60	

This document consists of 30 pages. Any blank pages are indicated.

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RESOURCE DOCUMENTS

The Resource Documents on pages 5, 7, 9 and 11 contain information to help you to answer the tasks in this booklet.

- The resource documents are perforated along the left hand side, so they can be removed from the task and answer booklet.
- Your supervisor will instruct you when to remove the resource documents, before you start the assessment.
- Please fold pages 5, 7, 9 and 11 along the perforated strip before removing from the task and answer booklet.

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TASK A – CHRISTMAS MECHANICAL TOYS**RESOURCE DOCUMENT 1**

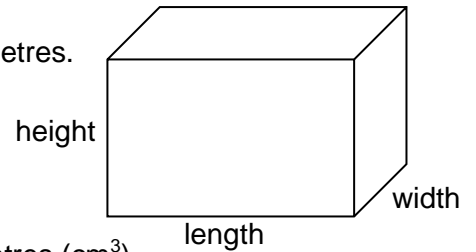
Jo's record for last year's Christmas Toys

	Type of Toy					
	Snow House	Big Wheel	Flying Santa	Snow Train	Snow Town	Magic Grotto
Price Jo pays	£40	£42	£50	£60	£75	£110
Price Jo sells	£60	£80	£90	£100	£120	£180
Number Jo buys	20	12	20	10	5	5
Number Jo sells	18	10	15	6	4	2

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TASK B – WASHING UP**RESOURCE DOCUMENT 1****A rule to work out the volume of water in a cuboid**

1. Find the length, width and height of the cuboid in centimetres.
2. Multiply the length by the width.
3. Multiply the answer by the height.
4. The answer is the volume of the cuboid in cubic centimetres (cm^3)

**Useful facts**

- Water costs 12p for 100 litres
- $1000 \text{ cm}^3 = 1 \text{ litre}$

There are

- 365 days in a year and
- 52 weeks in a year

Dishwasher

Special Offer
 Was ~~£369.99~~
 Now £250

- 13 place settings
- Energy rating: A+
- Water used: 11 litres per wash

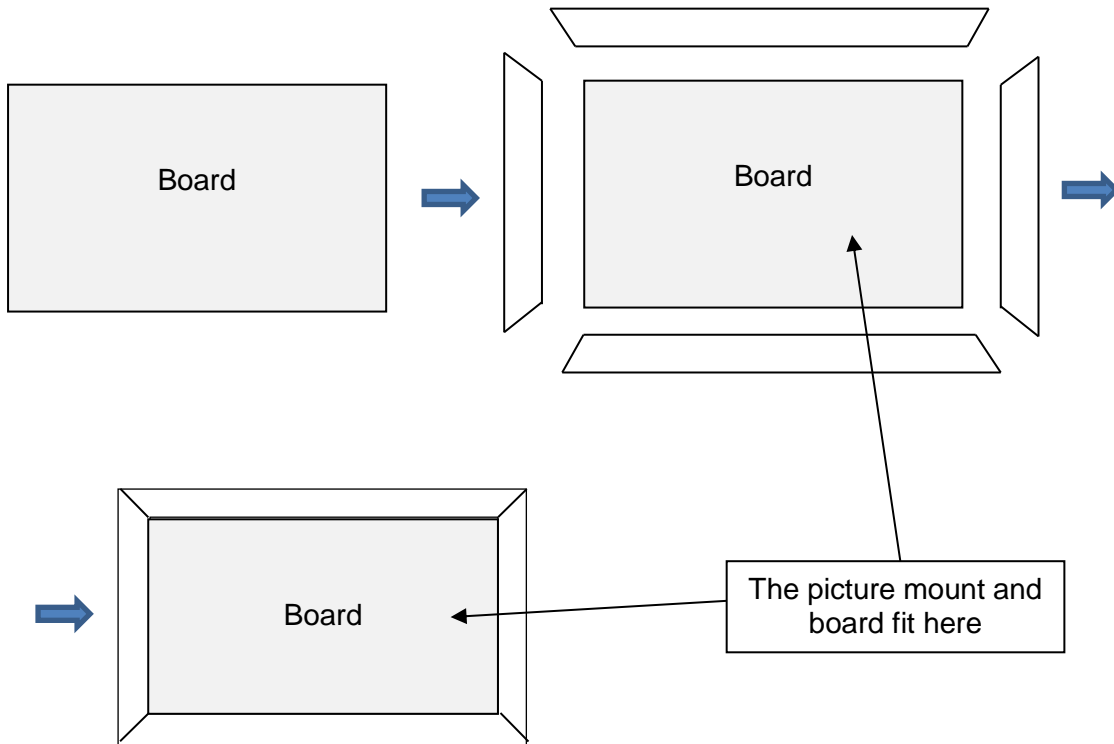
One-year manufacturer's warranty

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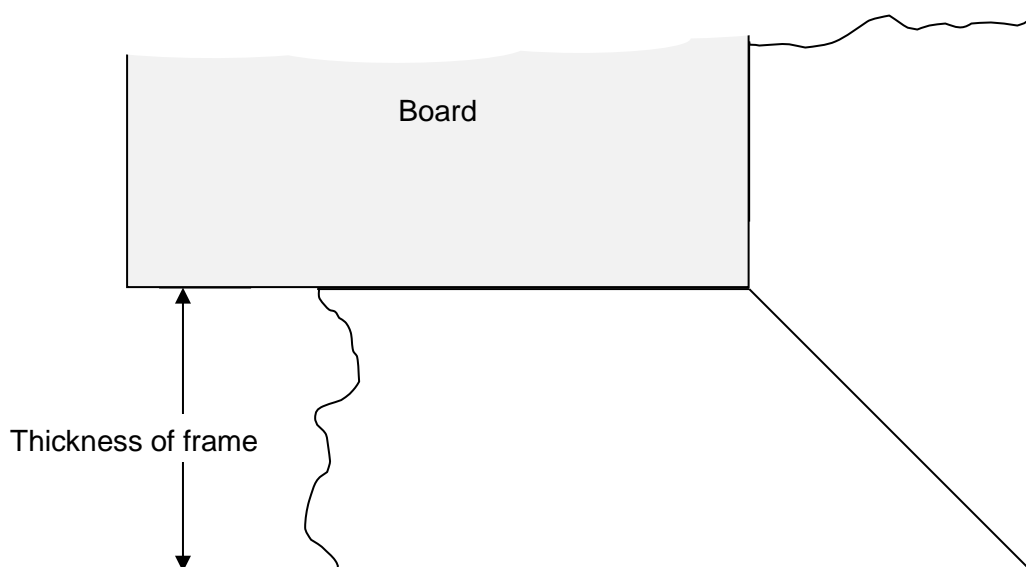
TASK C – PICTURE FRAMING

RESOURCE DOCUMENT 1

A picture frame is made using four pieces of wood called **moulding**. This moulding is fitted to the outside edges of a board. This is shown in the sketches below.



The end of each piece of frame is cut to make right angle corners like this. The board is shaded in the sketch.



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TASK C – PICTURE FRAMING

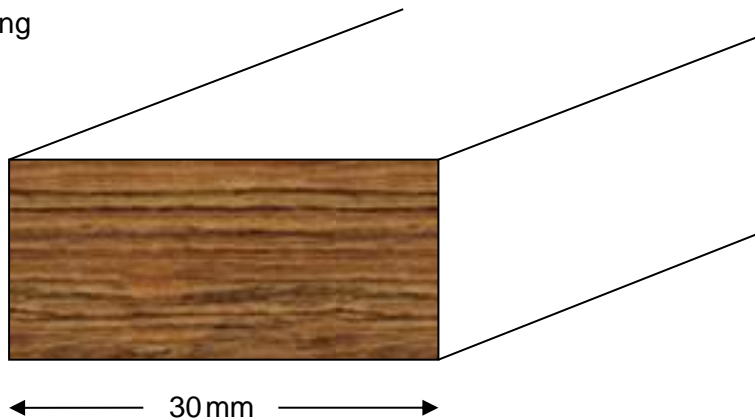
RESOURCE DOCUMENT 2

Board

2mm SBS 10" x 8" (250mm x 200mm) BBHB011	£0.22	<input type="text"/>	Add
2mm SBS A4 (297mm x 210mm) BBHB010	£0.26	<input type="text"/>	Add
2mm SBS 12" x 10" (300mm x 240mm) BBHB009	£0.36	<input type="text"/>	Add
2mm SBS 14" x 11" (350mm x 280mm) BBHB008	£0.40	<input type="text"/>	Add
2mm SBS 16" x 12" (400mm x 300mm) BBHB006	£0.44	<input type="text"/>	Add
2mm SBS 18" x 14" (480mm x 350mm) BBHB005	£0.53	<input type="text"/>	Add
2mm SBS 20" x 16" (500mm x 400mm) BBHB004	£0.66	<input type="text"/>	Add
2mm SBS 24" x 20" (600mm x 500mm) BBHB003	£0.88	<input type="text"/>	Add

(<http://www.prioryframingsupplies.co.uk/>)

Moulding



The moulding is sold in pieces that are 1.5 metres long.
Moulding cost £2.60 per metre.

1 inch = 2.5 cm

10 mm = 1 cm

100 cm = 1 m

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TASK AND ANSWER PAGES

Do not turn over this page until you are told to do so by your supervisor.

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TASK A – CHRISTMAS TOYS**You will need Task A Resource Document 1**

Jo is the manager of a garden centre.

She is thinking about how many Christmas Toys to order for next Christmas.

She looks at her figures from last Christmas.

Jo buys each toy for one price and sells it at a higher price.

Q1 (a) What price did Jo pay for a Big Wheel?

_____ **(1 mark)**

(b) For what price did Jo sell a Big Wheel?

_____ **(1 mark)**

The difference between these two prices is the money she makes.

(c) How much money did Jo pay to buy 12 Big Wheels?

_____ **(2 marks)**

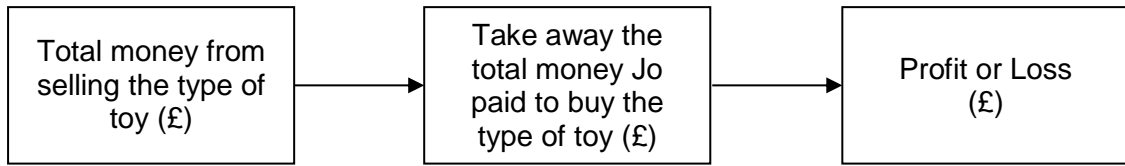
(d) How much money did Jo get from selling 10 Big Wheels?

_____ **(2 marks)**

Examiner
use only
(Q1)

Jo donated the toys that she did not sell to charity.

Jo works out her profit or loss for each type of toy using this word formula.



Q2 Did Jo make a profit or loss from selling Big Wheels last year?
How much was this?
Support your answer with working.

(3 marks)

Examiner
use only
(Q2)

Q3 (a) Complete this table.

	Type of Toy					
	Snow House	Big Wheel	Flying Santa	Snow Train	Snow Town	Magic Grotto
Price Jo pays	£40	£42	£50	£60	£75	£110
Price Jo sells	£60	£80	£90	£100	£120	£180
Number Jo buys	20	12	20	10	5	5
Number Jo sells	18	10	15	6	4	2
Total money Jo pays to buy the type of toy			£1000	£600	£375	£550
Total money Jo gets from selling the type of toy			£1350	£600	£480	£360
Profit or Loss			£350	£0		-£190

(4 marks)

(b) Explain what the entry for Profit or Loss in the **Magic Grotto** column means.

(1 mark)

Examiner
use only
(Q1)

These are the prices Jo paid last year and the prices she will pay this year for toys.

	Type of Toy					
	Snow House	Big Wheel	Flying Santa	Snow Train	Snow Town	Magic Grotto
Last year's prices	£40	£42	£50	£60	£75	£110
This year's prices	£50	£50	£50	£90	£70	£160

Jo wants to order some toys for next Christmas.
She does not think she will order all the types.

Q4 Use this information, and last year's sales figures, and write some recommendations for Jo.

You must explain your recommendations.

(4 marks)

Examiner
use only
(Q4)

Checking (2 marks)

Examiner
use only
(Checking)

Total (Q4 + checking) marks

Examiner
use only
(Total)

END OF TASK A

TASK B – WASHING UP**You will need Task B Resource Document 1**

Nadia does not have a dishwasher.
She washes up in this bowl.

The bowl can be thought of as a cuboid.

The length and width of the bowl are both 30 cm.



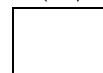
- Q1 (a)** When Nadia washes up she always puts water into the bowl until it is $\frac{3}{4}$ full.
What is the depth of water in the bowl?

(2 marks)

- (b)** Use a calculation to Show that Nadia uses just under 11 litres of water each time she washes up.

(3 marks)

Examiner
use only
(Q1)

**[Turn over**

Nadia makes this record of how many times she washes up in 10 days.

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
3	4	3	4	3	5	5	4	4	5

- Q2 (a)** Nadia uses 11 litres of water each time she washes up.
Calculate the number of litres of water she uses for washing up in a year.

Show your working.

(5 marks)

- (b)** How much does Nadia pay in a year for the water she uses to wash up?

(2 marks)

Examiner
use only
(Q2)

Nadia buys the dishwasher shown in **Task B Resource Document 1**.
Most dishwashers do not last for more than 10 years.

In the next year she uses only the dishwasher for washing up.
She uses it four times each week.
She saves money because she uses less water than washing up by hand.

Q3 Is it likely that the money she saves will cover the price of the dishwasher?
Explain your decisions and show the calculations you use.

(6 marks)

Examiner use only (Q3)

Checking (2 marks)

Examiner use only (Checking)

Total (Q3 + checking) marks

Examiner use only (Total Q3+ch)

END OF TASK B

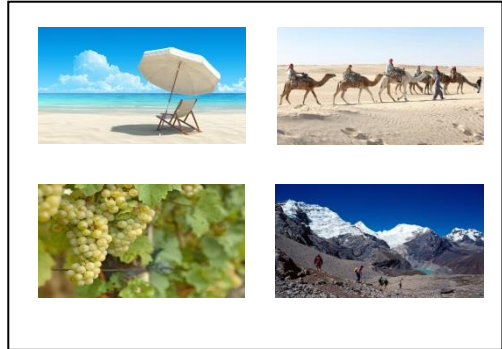
[Turn over

TASK C – PICTURE FRAMING

You will need Task C Resource Documents 1 and 2

Barry has four pictures.
Each picture is 7 inches wide and 5 inches high.
He wants to put them all in one mount like this.

Not to scale



The mount holds the pictures that will go in a frame.
There is 1 inch between each picture and a 2 inch wide border around the four pictures.

Q1 (a) Use figures to explain why the total width of the mount is 19 inches.

_____ **(1 mark)**

(b) What is the total height of the mount, in inches?

(2 marks)

Examiner
use only
(Q1)

Barry will make a frame to hold the mount and pictures.
He needs moulding and a board that he can cut to the same size as the mount.

The boards he can buy are shown in Task C Resource Document 2.
He wants to cut off as little board as possible.

Q2 (a) Which board should he buy?

_____ **(1 mark)**

(b) How can he cut the board to be the same size as the mount?
Use figures in your answer.

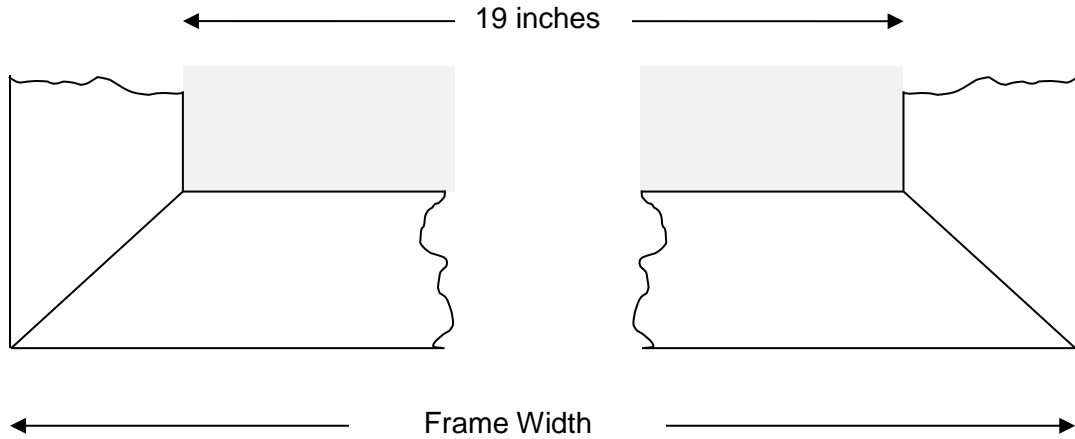
(2 marks)

Examiner
use only
(Q2)

This sketch shows the bottom of the frame and the board.

The board is 19 inches wide.

Q3 (a) Using the diagram and calculations, explain why the Frame Width will be 53.5 cm.



(5 marks)

(b) Can Barry make a frame for the pictures using one piece of moulding?
 Show how you get your answer and explain your decisions.
 You will need to look back to **Task C Q1**.

[Turn over

(4 marks)

Examiner
use only
(Q3)

Q4 Barry pays £10.20 for the mount.
How much will Barry spend, in total, to make his picture frame?

(3 marks)

Examiner
use only
(Q4)

Checking (2 marks)

Examiner
use only
(Checking)

Total (Q4 + checking) marks

Examiner
use only
(Total
Q4+ch)

END OF TASK C

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OXFORD CAMBRIDGE AND RSA EXAMINATIONS

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS

PRACTICE PAPER 1

Mark Scheme

The maximum mark is 60

FS Maths Marking Guidance

TASK A – Christmas Toys

Part	Process	Award	On evidence of		Exemplification Notes	R	A	I	Coverage/range
Q1a	Jo's price for a Big Wheel	1	1	42		R2			S1
Q1b	Jo sells Big Wheel for	1	1	80		R2			S1
Q1c	Money made on all Big Wheels	2	2	504 or <i>Their</i> 42 x 12 - correct		R1 R3			N1, N2, S1
			1	Attempt <i>their</i> 42 x 12					
Q1d	Money made on Big Wheels last year	2	2	800 or <i>Their</i> 80 x 10 - correct			A1	I1	N1, N2, N6, G1, S1
			1	Attempt <i>their</i> 80 x 10					
Q2	Find profit on Big Wheels last year	3	P2	Find profit £296 oe or <i>Their</i> 800 – <i>their</i> 504 correct	Must have correct money unit for 2 marks				N1, N2, N6, G1, S1
			P1	296 oe or <i>Their</i> 800 – <i>their</i> 504 correct			A1	I1	
			D1	Profit or loss Correct interpretation of <i>their</i> figures	Expect profit oe				

Q3a	Complete table	4		Values 800 (504) 1080 (800) 280 (296) 105 V4 4 correct entries V3 3 correct values V2 2 correct values V1 1 correct value	May be their figures from Q1. Do not count when awarding marks	R1 R3	3A1		N1, N2, G1, S1
Q3b	Explain entry for Magic Grotto	1	1	Loss or No profit				11	G1, S1

Q4	Suggest next year's order	4	<p>Reward each sensible suggestion and each reason to a maximum of 4</p> <p>1 Buy snow house and very popular 1 or Made a profit</p> <p>1 Don't buy Magic Grotto and 1 Price has gone up a lot or 1 It was not popular or 1 Made a loss</p> <p>1 Buy Flying Santa and 1 Made a good profit or 1 Price has not gone up or 1 Was popular</p> <p>1 Buy Big Wheel and 1 Price has only gone up a bit or 1 Made a good profit</p> <p>1 Don't buy Snow Train and 1 Price has gone up a lot or 1 It was not popular.</p>	<p>Accept other sensible suggestions and reasons Do not penalise errors in calculations if these do not affect the value of the judgement</p>			411	N1, N2, G1, S1
	Checking	2	<p>2: One clear check of any calculation that would contribute to a mark</p> <p>1: Statement that an answer is unreasonable, or 3 correct calculations throughout the task that would each contribute to a mark.</p> <p>0: Fewer than 3 correct calculations and no checks</p>			2A 2		
	TOTAL	20			6	7	7	

Process	R	A	I	Coverage	N1	N2	N3	N4	N5	N6	G1	G2	G3	G4	S1	S2	S3	S4
Q1a	R2														✓			
Q1b	R2														✓			
Q1c	R1 R3				✓	✓									✓			
Q1d		A1	I1		✓	✓				✓	✓				✓			
Q2		A1	I1		✓	✓				✓	✓				✓			
Q3a	R1 R3	3A1			✓	✓					✓				✓			
Q3b			I1								✓				✓			
Q4		2A2	4I1								✓				✓			
Total	6	7	7															

FS Maths Marking Guidance

TASK B – Washing up

Part	Process	Award	On evidence of....		Exemplification Notes	R	A	I	Coverage/range
Q1a	Depth of water in bowl	2	D2	12 [cm]	Must see some working	R3	A1		N2, N3, (G1) S1
			D1	Attempt $16 \times \frac{3}{4}$ oe					
Q1b	Volume in bowl less than 11 litres	3	3	10.8 litres or (<i>Their</i> $12 \times 30 \times 30 \div 1000$ oe litres correct	Must have litres for 3 marks	R3	A1	I1	N2, N6, G1, G2
			2	10.8 or (<i>Their</i> $12 \times 30 \times 30 \div 1000$ oe correct					
			1	10 800 or (<i>Their</i> $12 \times 30 \times 30 \div$ oe correct					

Q2a	Number of litres in a year	5	W2	<p>Calculate number of washes/unit Correct representative figure for a unit of time a day, a week, a month</p>	<p>EG Mean $40 \div 10 = 4$ washes a day Median 3 3 3 4 4 4 4 5 5 5 and select 4</p>				N1, N2, G2, (S1), S3
			W1	Attempt estimate of representative figure using valid method					
			L2	<p>Calculate number of litres 16 060 or 12584 or <i>Their</i> representative number of washes correctly scaled to a year</p>	16 060 or 12584 get L4				
			L1	Attempt to scale <i>their</i> representative figure to a year using a correct method	For an attempt allow 48 weeks in year or 366 or 336 days in a year	R1 R2	A1	2I1	
			E1	Clear annotation of method or Explanation of method	<p>Look for headings Look for comment justifying the representative figure (not just mean)</p> <p><i>Accept other figures from clear use of estimation.</i></p>				
Q2b	Cost of water to wash up in a year	2	2	1927[2] or 1510[08] oe or <i>Their</i> $L \times 12 \div 100$ [$\div 100$]	Accept in £ EG £19.27[2] or £15.10[08]				N1, N2, G1
			1	Attempt <i>their</i> $L \times 12 \div 100$ [$\div 100$]	19.27[2] or 15.10[08]	R3	A1		

Q3	How long will dishwasher have to run to save money	6	W2	<p>Find cost of water used [£]2.75 or [£]2.74 oe</p>					N1, N2, N4, G1, (S1), S4
			W1	<p>[£2].7456 oe or Attempt $11 \times 44 \times 52 \times 12 \div 100$</p>					
			S2	<p>Find saving per year [£]16.52 or [£]12.35 or <i>Their</i> (19.27 or 15.10) – <i>their</i> 2.74 correct</p>					
			S1	<p>Attempt <i>their</i> (19.27 or 15.10) – <i>their</i> 2.74</p>					
			C2	<p>Find chance they pay for dishwasher [£]165.2[0] or 123.5[0] or <i>Their S</i> \times 10 correct or 12 to 13 or 20 to 21 [years]</p>	<p><i>Look at range of figures</i> $250 \div 16.52 = 15.13\dots$ $250 \div 12.35 = 20.24\dots$</p>	R1 R3	2A1	2I1	
			C1	<p>And Correct interpretation of <i>their</i> figures</p> <p>[£]165.2[0] or 123.5[0] or <i>Their S</i> \times 10 correct or 12 to 13 or 20 to 21 [years]</p> <p>And Wrong or no interpretation of <i>their</i> figures</p> <p>Or Attempt <i>their S</i> \times 10 or Attempt $369.99 \div$ <i>their S</i></p>	<p>Expect “very unlikely” but do not accept “impossible”. Accept reference to higher or lower usage or electricity costs as interpretation</p>				

	Checking	2	2: One clear check of any calculation that would contribute to a mark 1: Statement that an answer is unreasonable, or 3 correct calculations throughout the task that would each contribute to a mark. 0: Fewer than 3 correct calculations and no checks		2A2		
	TOTAL	20		7	8	5	

Process	R	A	I	Coverage	N1	N2	N3	N4	N5	N6	G1	G2	G3	G4	S1	S2	S3	S4
Q1a	R3	A1				✓	✓				(✓)				✓			
Q1b	R3	A1	I1			✓				✓	✓	✓						
Q2a	R1 R2	A1	2I1		✓	✓						✓			(✓)		✓	
Q2b	R3	A1			✓	✓					✓							
Q3	R1 R3	2A1 2A2	2I1		✓	✓		✓			✓				(✓)			✓
Total	7	8	5															

FS Maths Marking Guidance

TASK C – Picture Framing

Part	Process	Award	On evidence of		Exemplification Notes	R	A	I	Coverage/range
Q1a	Show length of mount is 19 inches	1	1	2 + 7 + 1 + 7 + 2 [= 19]	In any order but not 7 + 7 + 5 or other semi simplification			I1	N1, N2, G1, S1
Q1b	Find width of frame	2	2	15	Accept 37.5 cm				N1, N2, G1, S1
			1	Attempt 2 + 5 + 1 + 5 + 2	In any order	R3	A1		
Q2a	Choose correct board	1	B1	Choice of board 20 x 16 or BBHB004	Accept equivalent statements in cm or mm EG 500mm x 400mm	R2			S1
Q2b	Choose correct board	2	C2	Amount to cut off 1 inch strip oe from top (or bottom) and 1 inch strip oe from one side	Accept 2.5 cm or 25 mm for 1 inch				N1, N2, G1, (G4)
			C1	Mention of 1 inch strip oe but imprecise explanation	EG He cuts off 1 inch or 1 inch all round			2I1	
Q3a	Why is length 51.9 cm?	5	L2	Convert 19 inches to cm 47.5					N1, N2, N4, S1, G1, G3, (G4)
			L1	Attempt 19 x 2.5					
			F2	Frame width 6		R1	A1		
			F1	3					
			T1	Find total width Their 47.5 plus their 6 correct					

Q3b	Can Barry make a frame from one piece of moulding?	4	<p>W2 Find total width of one side 43.5 [cm] or <i>Their</i> $15 \times 2.5 + 3 \times 2$ oe correct</p> <p>W1 40.5 or 37.5 or <i>Their</i> $15 \times 2.5 + 3$ oe correct</p> <p>T1 Find total length of moulding 194 or <i>Their</i> L + <i>their</i> W correct</p> <p>D1 Decision <i>Their</i> No and $194 > 150$ oe</p>	<p>Accept 435 mm or 17.4 inches</p> <p>Accept 405 mm or 16.2 inches or 375mm</p> <p>Accept 1940 mm or 77.6 inches</p>	R2 R3	A1	I1	N1, N2, N4, S1, G1, G3, (G4)
Q4	Amount spent on frame	3	<p>M1 Price of moulding [£]7.80 or Correct price consistent with <i>their</i> M</p> <p>P2 Total price £18.66 or 1866p or <i>Their</i> M + <i>their</i> price of board from Q2 + 10.2 correct with money conventions correct</p> <p>P1 18.66 or 1866 or <i>Their</i> M + <i>their</i> price of board from Q2 + 10.2 correct without money conventions correct</p>	<p>Expect board to be £0.66 or £0.88 but may be 0.22 or 0.26 or 0.36 or 0.40 or 0.53 from price list</p>	R3	A1	I1	N1, N2, N4, (N6), S1, G1, (G4)
	Checking	2	<p>2: One clear check of any calculation that would contribute to a mark</p> <p>1: Statement that an answer is unreasonable, or 3 correct calculations throughout the task that would each contribute to a mark.</p> <p>0: Fewer than 3 correct calculations and no checks</p>			2A 2		
	TOTAL	20			7	7	6	

