OCR
Oxford Cambridge and RSA

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	
2	/3	
3	/5	
4	/6	**/20**
TASK B		
1	/5	
2	/7	
3	/8	**/20**
TASK C		
1	/3	
2	/3	
3	/9	
4	/5	**/20**
Total	**/60**	

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

 © OCR 2018 Registered Company Number: 3484466 **[Turn over**

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

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.

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

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

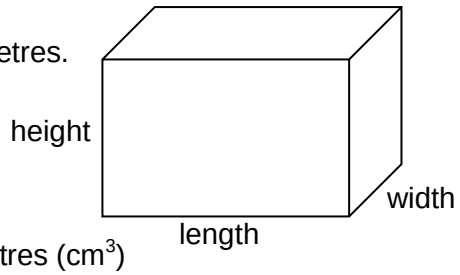
THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

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 cm^3 = 1 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

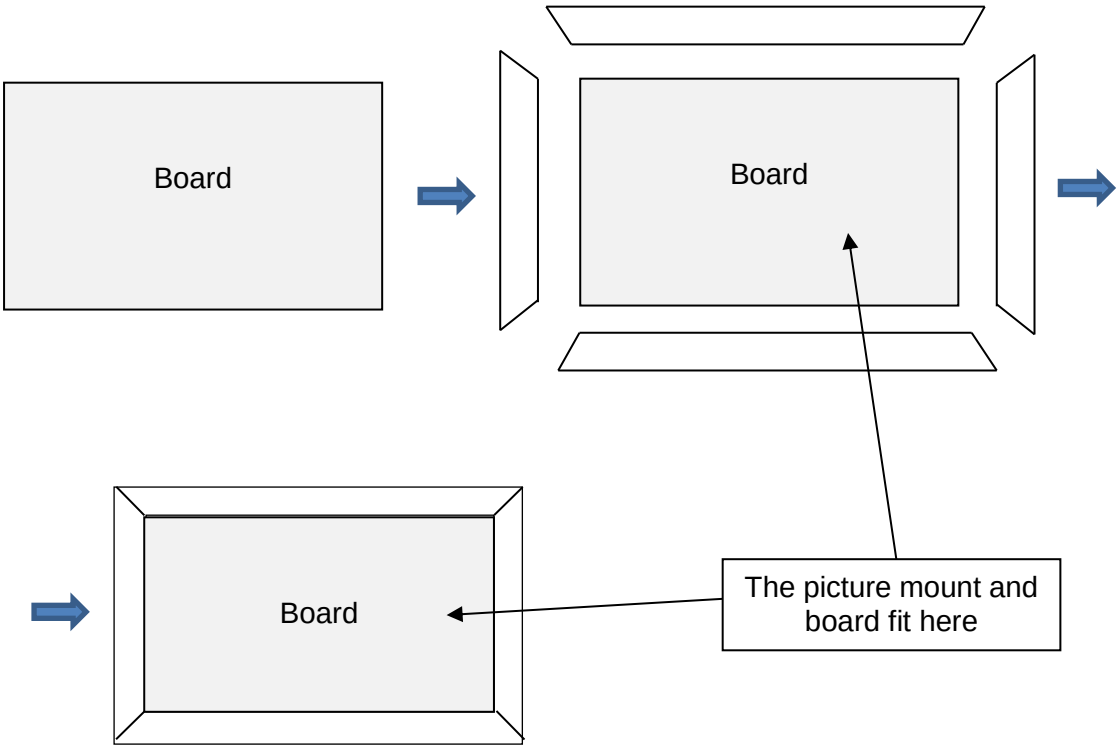
One-year manufacturer's warranty

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

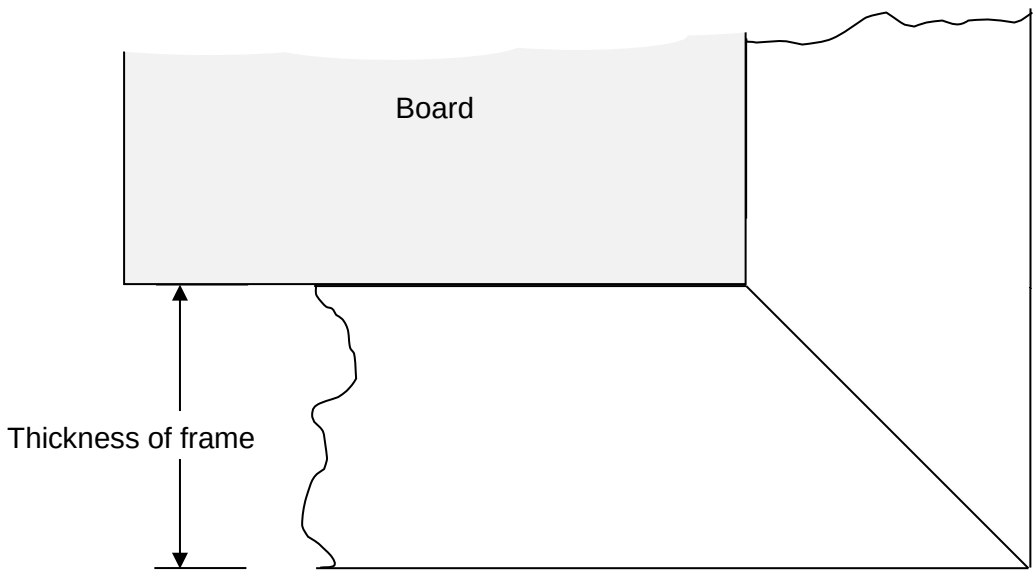
TASK C – PICTURE FRAMING

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.



THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

TASK C – PICTURE FRAMING

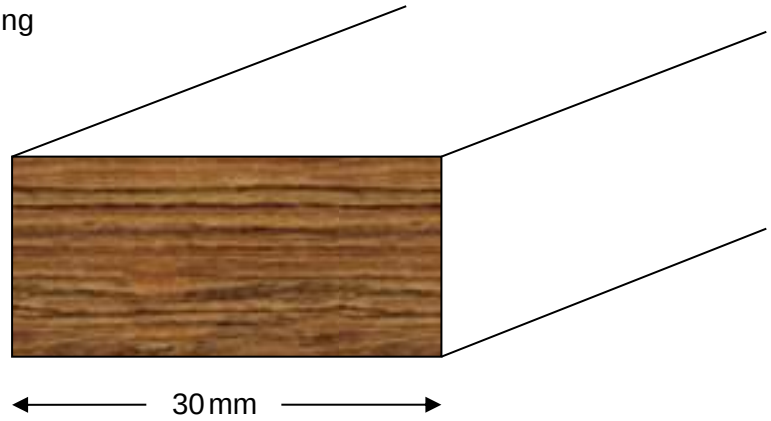
RESOURCE DOCUMENT 2

Board

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

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

TASK AND ANSWER PAGES

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

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

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?

_____

_____

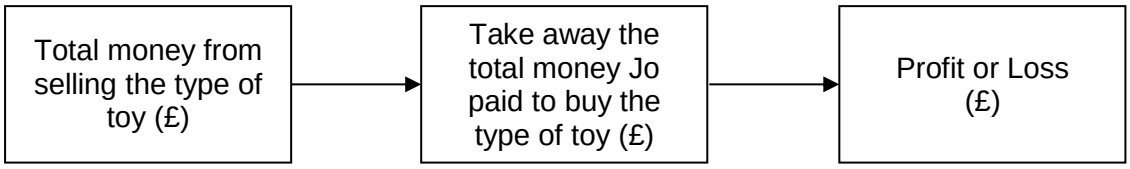
_____

(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.

Examiner use only (Q4)

(4 marks)

Examiner use only (Checking)

Checking (2 marks)

Examiner use only (Total)

Total (Q4 + checking) marks

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.

Examiner use only (Q3)

(6 marks)

Examiner use only (Checking)

Checking (2 marks)

Examiner use only (Total Q3+ch)

Total (Q3 + checking) marks

END OF TASK B

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.

_____

_____

_____

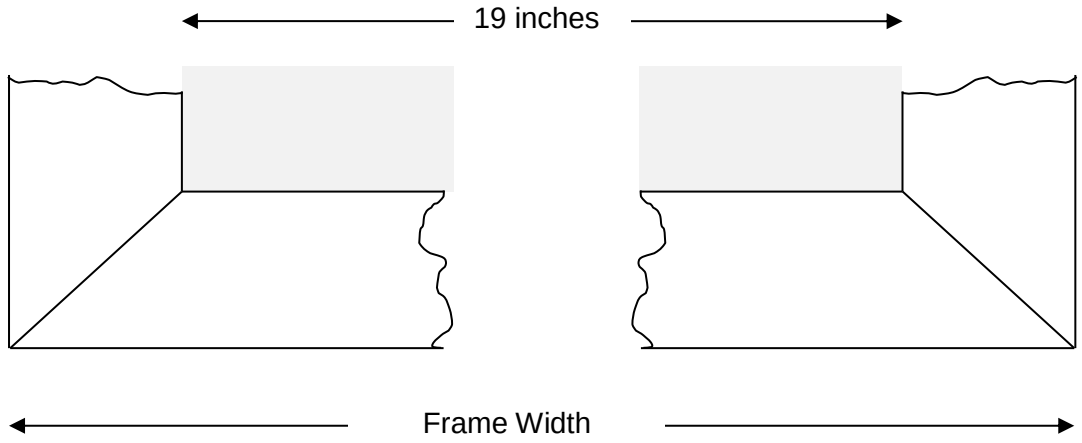
(2 marks)

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**.

Examiner use only (Q3)

(4 marks)

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

Examiner use only (Q4)

(3 marks)

Examiner use only (Checking)

Checking (2 marks)

Total (Q4 + checking) marks

Examiner use only (Total Q4+ch)

END OF TASK C

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

OCR
Oxford Cambridge and RSA

Copyright Information:

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.
If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material OCR will be happy to correct its mistake at the earliest possible opportunity.
For queries or futher information please contact the Copyright Team, OCR (Oxford Cambridge and RSA Examinations), The Triangle Building, Shaftesbury Road, Cambridge
CB2 8EA.
OCR is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

© OCR 2018

OCR
Oxford Cambridge and RSA

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS

PRACTICE PAPER 1

Mark Scheme

The maximum mark is 60

© OCR 2018

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** **1**	504 or *Their* 42 x 12 - correct Attempt *their* 42 x 12		**R1** **R3**			**N1, N2, S1**
Q1d	**Money made on Big Wheels last year**	**2**	**2** **1**	800 or *Their* 80 x 10 - correct Attempt *their* 80 x 10			**A1**	**I1**	**N1, N2, N6, G1, S1**
Q2	**Find profit on Big Wheels last year**	**3**	**P2** **P1** **D1**	**Find profit** £296 oe or *Their* 800 – *their* 504 correct 296 oe or *Their* 800 – *their* 504 correct **Profit or loss** Correct interpretation of *their* figures	Must have correct money unit for 2 marks Expect profit oe		**A1**	**I1**	**N1, N2, N6, G1, S1**

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				**I1**	**G1, S1**

Q4	**Suggest next year's order**	**4**		**Reward each sensible suggestion and each reason to a maximum of 4** **1** Buy snow house and very popular **1** or Made a profit Don't buy Magic Grotto and **1** Price has gone up a lot or **1** It was not popular or Made a loss Buy Flying Santa and **1** Made a good profit or **1** Price has not gone up or Was popular Buy Big Wheel and **1** Price has only gone up a bit or **1** Made a good profit Don't buy Snow Train and **1** Price has gone up a lot or **1** It was not popular.	Accept other sensible suggestions and reasons Do not penalise errors in calculations if these do not affect the value of the judgement			**4I1**	**N1, N2, G1, S1**
	Checking	**2**	**2:** One clear check of any calculation that would contribute to a mark **1:** Statement that an answer is **un**reasonable, or 3 correct calculations throughout the task that would each contribute to a mark. **0:** Fewer than 3 correct calculations and no checks			**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]					**N2, N3, (G1) S1**
			D1	Attempt 16 × $\frac{3}{4}$ oe	Must see some working	**R3**	**A1**		
Q1b	**Volume in bowl less than 11 litres**	**3**	**3**	10.8 litres or (*Their* 12) × 30 × 30 ÷ 1000 oe litres correct	Must have litres for 3 marks				**N2, N6, G1, G2**
			2	10.8 or (*Their* 12) × 30 × 30 ÷ 1000 oe correct		**R3**	**A1**	**I1**	
			1	10 800 or (*Their* 12) × 30 × 30 ÷ oe correct					

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

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

	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** **1**	15 Attempt 2 + 5 + 1 + 5 + 2	Accept 37.5 cm In any order	**R3**	**A1**		**N1, N2, G1, S1**
Q2a	**Choose correct board**	**1**	**B1**	**Choice of board** 20 × 16 or BBHB004	Accept equivalent statements in cm or mm EG 500mm × 400mm	**R2**			**S1**
Q2b	**Choose correct board**	**2**	**C2** **C1**	**Amount to cut off** 1 inch strip oe from top (or bottom) and 1 inch strip oe from one side Mention of 1 inch strip oe but imprecise explanation	Accept 2.5 cm or 25 mm for 1 inch EG He cuts off 1 inch or 1 inch all round			**2I1**	**N1, N2, G1, (G4)**
Q3a	**Why is length 51.9 cm?**	**5**	**L2** **L1** **F2** **F1** **T1**	**Convert 19 inches to cm** 47.5 Attempt 19 x 2.5 **Frame width** 6 3 **Find total width** *Their* 47.5 plus *their* 6 correct		**R1**	**A1**		**N1, N2, N4, S1, G1, G3, (G4)**

Q3b	**Can Barry make a frame from one piece of moulding?**	**4**	**W2** **W1** **T1** **D1**	**Find total width of one side** 43.5 [cm] or *Their* 15 × 2.5 + 3 × 2 oe correct 40.5 or 37.5 or *Their* 15 × 2.5 + 3 oe correct **Find total length of moulding** 194 or *Their* **L** + *their* **W** correct **Decision** *Their* No **and** 194 > 150 oe	Accept 435 mm or 17.4 inches Accept 405 mm or 16.2 inches or 375mm Accept 1940 mm or 77.6 inches	**R2** **R3**	**A1**	**I1**	**N1, N2, N4, S1, G1, G3, (G4)**
Q4	**Amount spent on frame**	**3**	**M1** **P2** **P1**	**Price of moulding** [£]7.80 or Correct price consistent with *their* **M** **Total price** £18.66 or 1866p or *Their* **M** + *their* price of board from **Q2** + 10.2 correct **with** money conventions correct 18.66 or 1866 or *Their* **M** + *their* price of board from **Q2** + 10.2 correct **without** money conventions correct	Expect board to be £0.66 or £0.88 but may be 0.22 or o.26 or 0.36 or 0.40 or 0.53 from price list	**R3**	**A1**	**I1**	**N1, N2, N4, (N6), S1, G1, (G4)**
	Checking	**2**	**2:** **1:** **0:**	One clear check of any calculation that would contribute to a mark Statement that an answer is **un**reasonable, or 3 correct calculations throughout the task that would each contribute to a mark. Fewer than 3 correct calculations and no checks			**2A 2**		
	TOTAL	**20**				**7**	**7**	**6**	

Process	R	A	I	Coverage	N1	N2	N3	N4	N5	N6	G1	G2	G3	G4	S1	S2	S3	S4
Q1a			I1		✓	✓					(✓)				✓			
Q1b	R3	A1			✓	✓					(✓)				✓			
Q2a	R2				✓	✓		(✓)			✓							
Q2b			2I1												✓			
Q3a	R1 R3	2A1	I1		✓	✓		✓			✓		✓	(✓)	✓			
Q3b	R1 R2	A1	I1		✓	✓		✓			✓		✓	(✓)	✓			
Q4	R3	A1 2A2	I1		✓	✓		✓			✓			(✓)	✓			
Total	**7**	**7**	**6**															