OCR
Oxford Cambridge and RSA

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS   09865

TASK AND ANSWER BOOKLET PRACTICE PAPER 2

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

This document consists of 24 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 – NURSERY

RESOURCE DOCUMENT 1

Floor space needed for each child in a nursery.

Age of child	Minimum amount of clear floor space needed for each child
Under 2 years	3.5 m²
2 years	2.5 m²
3 - 5 years	2.3 m²

Adult to child ratio in a nursery

Age of child	Maximum number of children that each adult can supervise
Under 2 years	3 children
2 years	4 children
3 - 5 years	8 children

Plan of nursery floor space

12 metres

11 metres
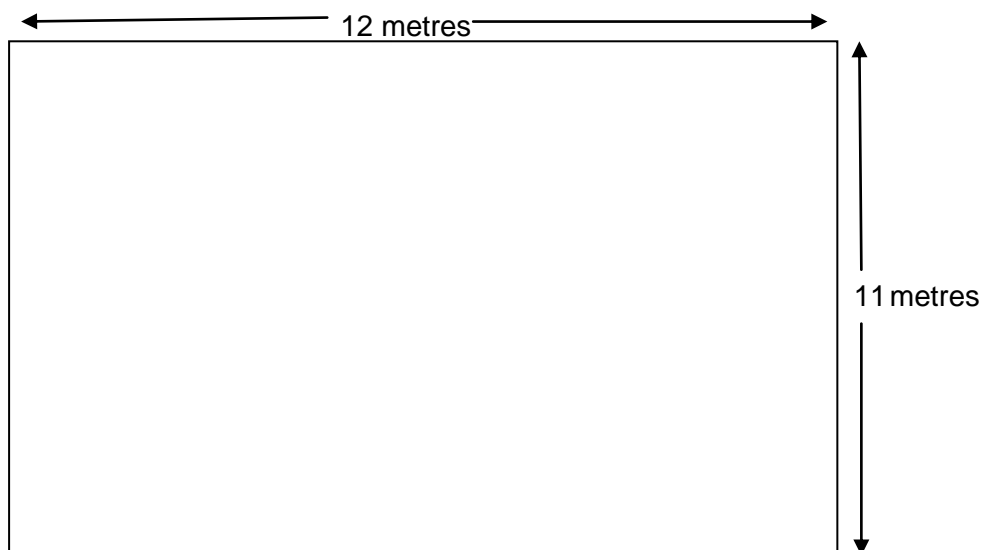
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TASK B – TIMESHEET

RESOURCE DOCUMENT 1

Timesheet for Bob

| Timesheet for Bob			Week 10
Day	**Start**	**Finish**	**Hours at work**
Sunday			
Monday	0930	1815	8 hrs 45 mins
Tuesday	1100	1930	8 hrs 30 mins
Wednesday	1330	2100	7 hrs 30 mins
Thursday	1400	2130	7 hrs 30 mins
Friday	1400	2215	
Saturday			

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TASK C – CASH FOR CLOTHES

RESOURCE DOCUMENT 1

Sue keeps a tally chart for the bags of clothes donated over the first 10 weeks.

Week	Number of bags donated	
1	‖‖ ‖‖ ‖‖ ‖‖‖	18
2	‖‖ ‖‖ ‖‖ ‖	16
3	‖‖ ‖‖ ‖‖ ‖‖ ‖‖	25
4	‖‖ ‖‖ ‖‖ ‖‖ ‖‖‖‖	27
5	‖‖ ‖‖ ‖‖ ‖‖ ‖‖‖‖	
6	‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖‖‖	29
7	‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖	32
8	‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖	35
9	‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖	40
10	‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖ ‖‖‖‖	44

This rule calculates the amount that the charity receives including Gift Aid.

Gift Aid sales	→	multiply by 1.25	→	Amount charity will receive
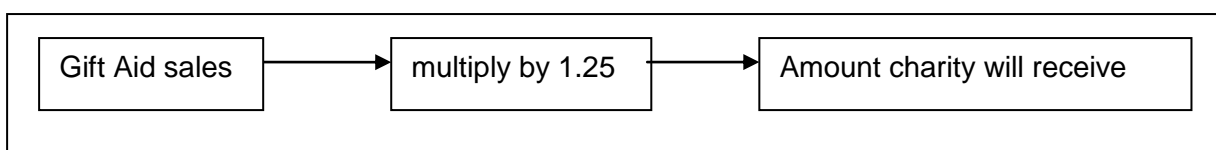
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TASK AND ANSWER PAGES

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

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TASK A – NURSERY

You will need Task A Resource Document 1

The local nursery must follow the regulations for the number of children that the adults can supervise at the same time.

Q1 **(a)** What is the minimum amount of clear floor space needed by a 3 year old child?

_____

_____

(1 mark)

(b) How many children, aged 2 years, can 3 adults supervise?

_____

_____

_____

(2 marks)

On a Monday the following children attend the nursery:
- 6 children under 2 years
- 12 children aged 2 years
- 16 children aged 3-5 years

(c) How many adults are needed to supervise these children?

Show your calculations.

_____

_____

_____

_____

_____

_____

(3 marks)

Examiner
use only
(Q1)

[Turn over

Q2 **(a)** What is the area of the nursery floor space?

_____

_____

_____

_____

(3 marks)

The play equipment fills 25% of the floor space.

(b) How much clear floor space is there for the children?

_____

_____

_____

_____

_____

_____

(2 marks)

Examiner
use only
(Q2)

The nursery has 9 children under 2 years, 12 children aged 2 years and 15 children aged 3 to 5 years who want to attend on a Friday.

There are 7 adults available to supervise the children.

Q3 Would the nursery be able to take all the children? Give a reason for your answer.

You must show calculations for the clear floor space **and** the number of adults.

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(7 marks)

Checking (2 marks)

Total marks

END OF TASK A

[Turn over

TASK B – TIMESHEET

You will need Task B Resource Document 1

Bob works as a chef.

Q1 **(a)** On which day does Bob start work at 1.30pm?

_____

_____

(1 mark)

(b) How long is Bob at work for on Friday?

_____

_____

(2 marks)

Bob gets paid £10.50 per hour. He has an unpaid break for half an hour each day.

Bob thinks that he will earn about £400 this week.

Q2 Is Bob right?

Show your calculations.

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_____

(6 marks)

Bob has to pay deductions of Income Tax, National Insurance and pension on what he earns.

Bob estimates that he pays ¼ of what he earns for these deductions.

Q3 How much will Bob receive this week after he has paid deductions?

_____

_____

_____

_____

_____

(3 marks)

Examiner
use only
(Q3)

[Turn over

When Bob works overtime he is paid 1½ times his normal hourly pay of £10.50.

Q4 **(a)** How much does Bob earn for each hour of overtime?

_____

_____

_____

_____

(2 marks)

Bob is saving up for a new television which costs £250.

Bob thinks that if he works overtime for 20 hours he will earn enough, after deductions, to pay for the television.

(b) Is Bob right?

Show your calculations.

_____

_____

_____

_____

_____

_____

_____

_____

(4 marks)

Examiner use only (Q4)

Checking (2 marks)

Examiner use only (Checking)

Total marks

Examiner use only (Total)

END OF TASK B

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TASK C – CASH FOR CLOTHES

You will need Task C Resource Document 1

Sue runs a new charity shop.

It sells clothes that are donated to raise money for charity. It hopes to raise at least £32 000 in the first year.

Q1 **(a)** How many bags of clothes were donated in week 5?

_____

_____

(1 mark)

(b) How many bags of clothes were donated in the first 10 weeks?

_____

_____

(2 marks)

(c) What is the average number of bags donated per week?

_____

_____

_____

_____

(2 marks)

Examiner
use only
(Q1)
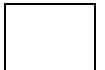
The shop expects that 1600 bags of clothes will be donated in the first year.

Q2 From the donations received so far do you think that the shop will reach its target?

Show your calculations. Give a reason for your decision.

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(4 marks)

Examiner
use only
(Q2)

The shop cannot sell all the bags of clothes that are donated. These clothes are recycled.

Sue estimates that 20% of the bags of clothes will be recycled.

Q3 If 1600 bags are donated in the first year, how many bags of clothes will be recycled?

Show your calculations.

_____

_____

_____

(2 marks)

Examiner
use only
(Q3)

[Turn over

The shop receives between £20 and £30 for each bag of clothes sold.

The Gift Aid scheme allows the shop to reclaim tax on some of the bags of clothes sold.

Q4 a) Using the Gift Aid scheme**,** what is the **least** amount that the shop will receive for each bag of clothes sold?

_____

_____

_____

_____

_____

(2 marks)

Remember that:
- the shop expects to receive 1600 bags of clothes in the first year, and
- 20% will be recycled.

The shop expects to claim Gift Aid for 50% of the bags sold.

It will receive £5 for each bag of clothes that is recycled.

(b) If the bags of clothes are sold for the **minimum** price, will the shop reach its target of £32 000 including Gift Aid?

Show your calculations.

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(5 marks)

Examiner
use only
(Q4)

Checking (2 marks)

Examiner
use only
(Checking)

Total marks   Examiner
use only
(Total)

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OXFORD CAMBRIDGE AND RSA EXAMINATIONS

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS

PRACTICE PAPER 2

Mark Scheme

The maximum mark is 60

FS Maths   Marking Guidance

TASK A – Nursery

Part	Process	Award		On evidence of….	Exemplification Notes	R	A	I	Coverage/range
1(a)	Find space needed	**1**	**1**	2.3(m²)		**R2**			**S1**
1(b)	Find number of children that 3 adults can supervise	**2**	**2**	12					**N2**
			1	Attempt 3 x 4 or 4 children per adult seen		**R2**		**I1**	**N5** **S1**
1(c)	Find how many adults needed for Monday	**3**	**3**	7 (adults)					**N1** **N2**
			2	Attempt 6 ÷ 3 and 12 ÷ 4 and 16 ÷ 8 oe		**R2**	**A1**	**I1**	**N5** **S1**
			1	Attempt 1 of 6 ÷ 3 or 12 ÷ 4 or 16 ÷ 8 oe					
2(a)	Find area of nursery	**3**	**3**	132m²	Units required				**N1** **N2**
			2	132		**R2**	**A1**	**I1**	**G3** **S1**
			1	12 x 11 attempted					
2(b)	Find usable space	**2**	**2**	(75% of 132) oe = 99(m²)			**A1**	**I1**	**N3** **N4**
			1	Attempt 75% of 132 oe or 33 seen					
3	Decide if nursery can accommodate children	**7**	**F2**	96(m²) needed	Space needed				**N1** **N2**
			F1	Attempt 9x3.5 or 12x2.5 or 15x2.3					**N3** **N4**
			R3	8 adults needed					**N5** **G1**
			R2	Attempt 9÷3 and 12÷ 4 and 15÷8 oe		**R1** **R2** **R3**	**2A1**	**2I1**	**S1**
			R1	Attempt one of 9÷3 or 12÷ 4 or 15÷8 oe					
			D1	Their 'no'					
			A1	Their 'not enough adults'					

Part	Process	Award	On evidence of….		Exemplification Notes	R	A	I	Coverage/range
	Checking	**CH2**	**2:**	One clear check of any calculation that would contribute to a mark	An estimate or a reverse calculation or a repeated calculation after original working seen would qualify for **CH2**				
			1:	Statement that an answer is **un**reasonable, or 3 correct calculations throughout the task that would each contribute to a mark.			**2A2**		
			0:	Fewer than 3 correct calculations and no checks					
	TOTAL	**20**				**7**	**7**	**6**	

Question	R	A	I	Coverage	N1	N2	N3	N4	N5	N6	G1	G2	G3	G4	S1	S2	S3	S4
1(a)	**R2**														✓			
1(b)	**R2**		**I1**			✓			✓						✓			
1(c)	**R2**	**A1**	**I1**		✓	✓			✓						✓			
2(a)	**R2**	**A1**	**I1**		✓	✓							✓		✓			
2(b)		**A1**	**I1**				✓	✓										
3	**R1, R2, R3**	**2A1, 2A2**	**2I1**		✓	✓	✓	✓	✓		✓				✓			
Total	**7**	**7**	**6**															

Expected solution

Q1(a)   a 3 year old child needs 2.3m² of space
Q1(b)   an adult can supervise 4 children so 3 adults can supervise 12 children
Q1(c) $6 \div 3 = 2$ adults for the under 2s,
               $12 \div 4 = 3$ adults for the 2 year olds and
               $16 \div 8 = 2$ adults for over 3s.
               so 7 adults are needed

Q2(a) $12 \times 11 = 132$m²
Q2(b)   25% of $132 = 33$
               so usable space is $132 - 33 = 99$m²

Q3 $(9 \times 3.5) + (12 \times 2.5) + (15 \times 2.3) = 96$m² needed. There is 99m² of usable space so yes the nursery has enough space.

          $9 \div 3 = 3$ adults for under 2s and $12 \div 4 - 3$ adults for 2 year olds and $15 \div 8 = 1.875$ so 2 adults needed for over 3s.
          Altogether 8 adults are needed. There are only 7 adults so not enough adults. So the nursery cannot take all the children.

FS Maths   Marking Guidance

TASK B – Timesheet

Part	Process	Award		On evidence of….	Exemplification Notes	R	A	I	Coverage/range
1(a)	Start time	1	1	Wednesday		R2			S1
1(b)	Hours at work on Friday	2	2	8¼ hours or 8 hours 15 mins or 8.25 hrs	Must have correct units	R2		I1	S1 G1
			1	8¼ oe or attempt 2215 - 1400					
2	Decide if Bob earns £400	6	T3	Their 38 (hours)		R1 R3	2A1	2I1	N3 N4 G1 G2 S1
			T2	Their 40½ hours or attempt 8¾+8+7½+7½+their 8¼ -unpaid lunch breaks					
			T1	Attempt 8¾+8+7½+7½+their 8¼					
			E2	(38 x 10.50) = (£)399 or their T x(£)10.50 correct					
			E1	Attempt 38 x 10.50 or their T x 10.50					
			S1	Their 'yes' supported by their figures					
3	Calculate deductions	3	D2	¼ x 399 or 400 = 99.75 or 100 or their E correct		R2	A1	I1	N3 N4 G1
			D1	Attempt ¼ x 399 or 400 or their E					
			N1	(£)299.25 or (£)300	Allow ft from their E and D				
4(a)	Calculate overtime rate	2	2	(£)15.75			A1	I1	N3 N4 G1
			1	Attempt 1½ x 10.50 oe					
4(b)	Decide if Bob can afford TV	4	A1	(20 x *their* 15.75) = 315	ft	R1 R3	A1	I1	N3 N4 G1
			B2	*Their* 315 – *their* 78.75 = (£)236.25 correct oe					

4

Part	Process	Award		On evidence of….	Exemplification Notes	R	A	I	Coverage/range
			B1	Attempt *their* (315 - 78.75) oe					
			C1	*Their* 'no' supported by their figures					
	Checking	**CH2**	**2:**	One clear check of any calculation that would contribute to a mark	An estimate or a reverse calculation or a repeated calculation after original working seen would qualify for **CH2**		**2A2**		
			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					
	TOTAL	**20**				**7**	**7**	**6**	

Question	R	A	I	Coverage	N1	N2	N3	N4	N5	N6	G1	G2	G3	G4	S1	S2	S3	S4
1(a)	**R2**														✓			
1(b)	**R2**		**I1**								✓				✓			
2	**R1, R3**	**2A1**	**2I1**				✓	✓			✓	✓			✓			
3	**R2**	**A1**	**I1**				✓	✓			✓							
4(a)		**A1**	**I1**				✓	✓			✓							
4(b)	**R1, R3**	**A1, 2A2**	**I1**				✓	✓			✓							
Total	**7**	**7**	**6**															

Expected solution

Q1(a)   Wednesday

Q1(b)   2215 - 1400 = 8 hours 15 mins

Q2   Hours at work 8¾+8+7½+7½+8¼ - 40 hours 30 mins
        less lunch breaks 40½ - 2½ 38 hours
        38 x £10.50 = £399 so yes Bob is right he earns about £400 for this week.

Q3   £399 ÷ 4 = £99.75
        So Bob receives £399 - £99.75 = 299.25

Q4(a)   £10.50 x 1.5 = £15.75

Q4(b)   20 x £15.75 = £315
        less deductions £315 ÷ 4 = £78.75
        so receives £236.25
        Bob cannot afford the television. He needs another £13.75

FS Maths   Marking Guidance

TASK C – Cash for Clothes

Part	Process	Award		On evidence of….	Exemplification Notes	R	A	I	Coverage/range
Q1(a)	Bags donated in wk 5	**1**		24		**R2**			**S1**
Q1(b)	Total bags donated	**2**	**T2**	Their 290		**R2**		**I1**	**S1** **N2**
			T1	Attempt 16+18+25+27+ their 24 +29+32+35+40+44					
Q1(c)	Find average number of bags	**2**	**2**	29 or their 'T÷ 10' correct or their 28 for their median	Allow rot		**A1**	**I1**	**N1** **N2** **S3**
			1	Attempt 290 ÷ 10 or their '290 ÷ 10' Or attempt to order at least 6 values for their median					
Q2	Estimate number of bags in a year	**4**	**2**	Correct calculation of their average x 48/50/52 weeks in a year	1508 or 1392 for mean 1456 or 1344 for median	**R2**	**A1**	**2I1**	**N1** **N2** **G1**
			1	Decision based on their number of bags					
			1	Reason for decision					
Q3	Find number of bags recycled	**2**	**2**	320		**R2**		**I1**	**N1** **N3**
			1	Attempt 0.2 x 1600 oe					
Q4(a)	Find value with Gift Aid	**2**	**2**	£25	Must have correct money notation		**A1**	**I1**	**G1** **N6**
			1	25 or attempt 20 x 1.25					
Q4(b)	Find if shop will meet target	**5**	**A1**	0.5 x *their* 1280 = 640 oe	Allow ft throughout	**R1** **R2** **R3**	**1A1**	**I1**	**N1** **N2** **N3** **G1**
			B3	(£)30400 or their (320 x 5) +(640 x 20) + (640 x 25) correct					
			B2	Attempt (320 x 5) +(640 x 20) + (640 x 25) or their (320 x 5) +(640 x 20) + (640 x 25) or 2 of *their*1600, 12800, 16000					
			B1	One of *their*1600, 12800, 16000 or					

Part	Process	Award		On evidence of….	Exemplification Notes	R	A	I	Coverage/range
			D1	Their 'no' supported by their figures					
	Checking	**CH2**	**2:**	One clear check of any calculation that would contribute to a mark	An estimate or a reverse calculation or a repeated calculation after original working seen would qualify for **CH2**		**2A2**		
			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					
	TOTAL	**20**				**7**	**6**	**7**	

Question	R	A	I	Coverage	N1	N2	N3	N4	N5	N6	G1	G2	G3	G4	S1	S2	S3	S4
1(a)	**R2**														✓			
1(b)	**R2**		**I1**			✓									✓			
1(c)		**A1**	**I1**		✓	✓											✓	
2	**R2**	**A1**	**2I1**		✓	✓					✓							
3	**R2**		**I1**		✓		✓											
4(a)		**A1**	**I1**							✓	✓							
4(b)	**R1, R2, R3**	**A1 2A2**	**I1**		✓	✓	✓				✓							
Total	**7**	**6**	**7**															

Expected solution

Q1(a)   5 bags
Q1(b)   290 bags
Q1(c)   290 ÷ 10 = 29 bags

Q2   29 x 52 = 1508 so if average number of bags donated then no shop will not meet its target. However trend shows that number of bags being donated is   increasing so may meet target.

Q3   20% x 1600 = 320 bags recycled

Q4(a)   £20 x 1.25 = £25
Q4(b)   1600 - 320 = 1280 ÷ 2 = 640
       320 x £25 + 640 x £20 + 640 x £25 =£30400 which is less than £32000 so shop will not meet target.