

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
LEVEL 2 FUNCTIONAL SKILLS MATHEMATICS

09866

TASK AND ANSWER BOOKLET PRACTICE PAPER 5

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		
	/	/20
	/	
	/	
	/	
	/	
TASK B		
	/	/20
	/	
	/	
	/	
	/	
TASK C		
	/	/20
	/	
	/	
	/	
	/	
Total	/60	

This document consists of 28 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 – GARDEN TIP**RESOURCE DOCUMENT 1**

Andy's recommended firms.

RON'S RUBBISH

£112.50 per tonne, all in, no other charges at all.

50/50 RUBBISH

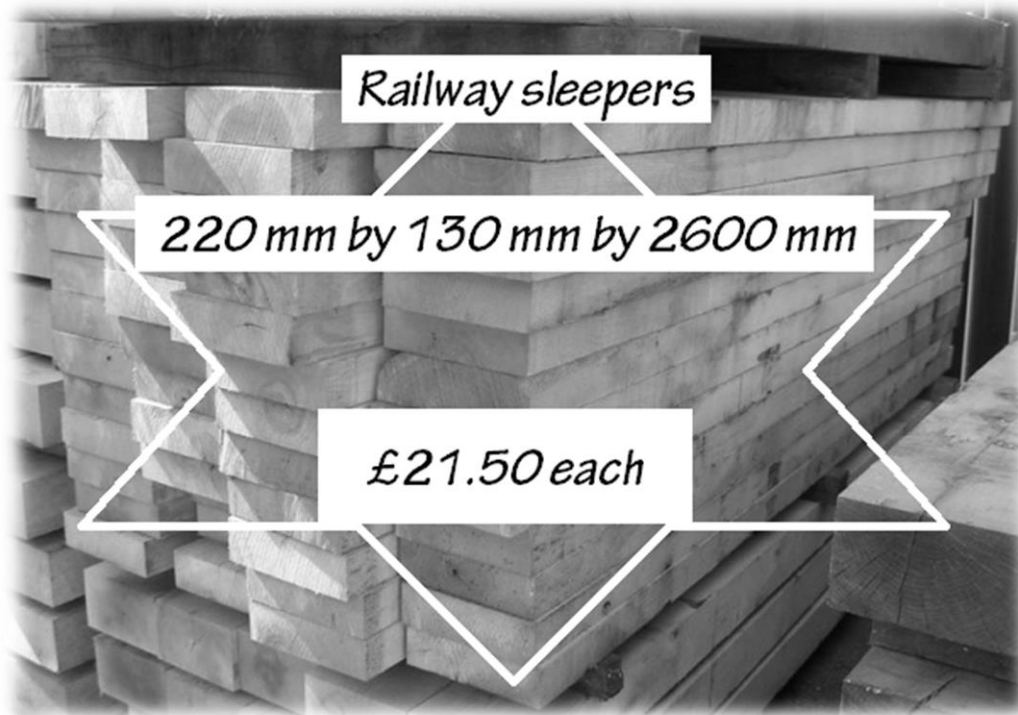
£50 per tonne plus £50 per hour of time.

THE RUBBISH TIPPER LORRY COMPANY

6 cubic metre capacity tipper costs £150 per load with a maximum load of 1½ tonnes.

1½ hours free labour for each load.



Any labour time more than the free time costs £80 per hour



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TASK B – BABIES**RESOURCE DOCUMENT 1**

Rik found this table in an old book on childbirth.

Hour	Number	Number in 6-hourly Period	Number in 12-hourly Period	Total
11pm to 12 Midnight	200		2237	4031
12 Midnight to 1am	138			
1am to 2am	179			
2am to 3am	190			
3am to 4am				
4am to 5am	185			
5am to 6am	197	1127	2237	
6am to 7am	179			
7am to 8am	167			
8am to 9am	189			
9am to 10am	170			
10am to 11am	225			
11am to 12noon	152	891	1794	
12noon to 1pm	152			
1pm to 2pm	136			
2pm to 3pm	149			
3pm to 4pm	153			
4pm to 5pm	149			
5pm to 6pm	142	903	1794	
6pm to 7pm	162			
7pm to 8pm	130			
8pm to 9pm	133			
9pm to 10pm	179			
10pm to 11pm	157			

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TASK B – BABIES

Times of birth, gender and weight of babies born in 24 hours in a large maternity ward 2010.

Time of birth	*Gender	Weight (kg)
00:05	B	3.84
01:04	B	3.33
01:18	G	3.54
01:55	G	3.84
02:57	G	3.63
04:05	B	2.21
04:07	B	1.75
04:22	G	2.85
04:31	G	3.17
07:08	G	3.52
07:35	G	3.38
08:12	G	3.29
08:14	B	2.58
09:09	B	3.21
10:35	G	3.52
10:49	B	3.75
10:53	B	3.52
11:33	G	2.90
12:09	G	2.64
12:56	G	3.92
13:05	G	3.69
14:06	B	3.43

Time of birth	*Gender	Weight (kg)
14:07	B	3.48
14:33	B	3.12
14:46	B	3.43
15:14	G	3.78
16:31	G	3.35
16:57	G	3.03
17:42	B	2.18
18:07	G	3.30
18:25	B	2.38
18:54	G	3.43
19:09	G	4.16
19:47	G	3.63
19:49	G	3.40
19:51	G	3.40
20:10	B	3.50
20:37	G	3.74
20:51	G	3.37
21:04	G	2.12
21:23	G	3.15
22:17	B	3.87
23:27	B	3.54
23:55	B	3.28

*B= boy, G = girl

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TASK C – THE BIRTHDAY CAKE**RESOURCE DOCUMENT 1**

Rich Fruit Cake

	Cake Diameter						
	15cm (6in)	18cm (7in)	20cm (8in)	23cm (9in)	25cm (10in)	28cm (11in)	30cm (12in)
Currants	150g (5oz)	225g (8oz)	350g (12oz)	450g (1lb)	625g (1lb 6oz)	775g (1lb 11oz)	1.2kg (2lb 8oz)
Sultanas	50g (2oz)	90g (3.5oz)	150g (5oz)	200g (7oz)	225g (8oz)	375g (13oz)	400g (14oz)
Raisins	50g (2oz)	90g (3.5oz)	150g (5oz)	200g (7oz)	225g (8oz)	375g (13oz)	400g (14oz)
Glace Cherries (chopped)	40g (1.5oz)	65g (2.5oz)	75g (3oz)	125g (4oz)	150g (5oz)	225g (8oz)	275g (10oz)
Mixed Peel (chopped)	25g (1oz)	50g (2oz)	50g (2oz)	75g (3oz)	125g (4oz)	150g (5oz)	200g (7oz)
Blanched Almonds (chopped)	25g (1oz)	50g (2oz)	50g (2oz)	75g (3oz)	125g (4oz)	150g (5oz)	200g (7oz)
Lemon Rind (grated)	¼ of a lemon	½ a lemon	¾ of a lemon	A whole lemon	A whole lemon	A whole lemon	1½ lemons
Plain Flour	90g (3.5oz)	175g (6oz)	200g (7oz)	350g (12oz)	400g (14oz)	600g (1lb 5oz)	700g (1lb 10oz)
Ground Cinnamon (optional)	2.5ml (Half teaspoon)	2.5ml (Half teaspoon)	5ml (1 teaspoon)	5ml (1 teaspoon)	7.5ml (1.5 teaspoons)	10ml (2 teaspoons)	12.5ml (2.5 teaspoons)
Ground Mixed Spice (optional)	1.5ml (Quarter teaspoon)	1.5ml (Quarter teaspoon)	2.5ml (Half teaspoon)	5ml (1 teaspoon)	5ml (1 teaspoon)	7.5ml (1.5 teaspoons)	7.5ml (1.5 teaspoons)
Butter	75g (3oz)	150g (5oz)	175g (6oz)	275g (10oz)	350g (12oz)	500g (1lb 2oz)	600g (1lb 5oz)
Light Soft Brown Sugar	75g (3oz)	150g (5oz)	175g (6oz)	275g (10oz)	350g (12oz)	500g (1lb 2oz)	600g (1lb 5oz)
Eggs (size 2)	1.5	2.5	3	5	6	9	11
Black Treacle (optional)	5ml (1 teaspoon)	5ml (1 teaspoon)	15ml (1 tablespoon)	15ml (1 tablespoon)	15ml (1 tablespoon)	30ml (2 tablespoons)	30ml (2 tablespoons)
Approx Cooking Time	2 hours	2 hours 30 mins	2 hours 45 mins	3 hours 15 mins	3 hours 45 mins	4 hours 15 mins	5 hours 15 mins
Approx Cooked Weight	625g (1.5lb)	1.25kg (2.5lbs)	1.50kg (3.25lbs)	2kg (4.5lbs)	2.75kg (6lbs)	4kg (9lbs)	5kg (11lbs)

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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 – GARDEN TIP**You will need Task A Resource Document 1**

Andy and Paul have moved into a new house.

The builders have left a lot of rubble and bricks to be cleared.

Andy works in the building trade.



What a mess! I reckon there must be
about 5 cubic metres of rubbish to remove.
That will cost us!

Companies which remove rubbish charge by volume or by weight.

A cubic metre of builders' rubbish weighs about 2.2 tonnes.

Q1 (a) (i) About how much will the rubbish in Andy's and Paul's garden weigh?

(2 marks)

At first they plan to bag up the rubbish themselves and take them to the local tip.



They are both reasonably fit.

- (ii) How many bags in total will they need to fill and carry to get rid of all the rubbish?

Jot down any assumptions you make.

(3 marks)

TASK B – BABIES**You will need Task B Resource Document 1**

Rik's friend Carol is expecting a baby.

He looks on the internet for a way to predict if the baby will be a boy or a girl.

He comes across this table. It is supposed to show how the gender of a baby depends on its expected birth month (and the mother's age then.)

Mother's Age	Expected Birth Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
20	Boy	Girl	Girl	Boy	Girl	Boy	Girl	Girl	Boy	Boy	Boy	Boy
21	Girl	Boy	Boy	Girl	Boy	Girl	Boy	Boy	Boy	Boy	Boy	Boy
22	Girl	Girl	Girl	Boy	Girl	Girl	Girl	Girl	Girl	Girl	Girl	Girl
23	Girl	Girl	Girl	Girl	Boy	Boy	Girl	Girl	Girl	Girl	Boy	Girl
24	Boy	Boy	Girl	Boy	Boy	Girl	Boy	Boy	Girl	Boy	Girl	Boy
25	Girl	Girl	Girl	Boy	Girl	Boy	Boy	Girl	Boy	Boy	Girl	Girl
26	Boy	Boy	Boy	Girl	Boy	Boy	Girl	Girl	Boy	Girl	Boy	Boy

On the internet the table extends in a similar way for older and younger women.

Carol's baby is due in May, when she is 20.

Q1 (a) What gender does the table predict the baby will be?

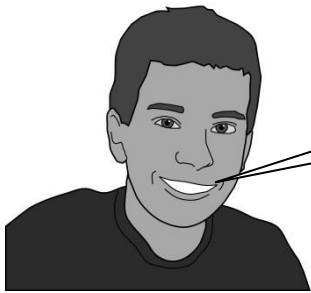
(1 mark)

Look at the row in the table for women who give birth at age 25.

(b) According to the table, what is the probability of a 25 year-old woman giving birth to a boy?

(2 marks)

Rik decides not to use the table.
He becomes interested in other beliefs about babies.



More babies are born at night.

He finds some information about times of birth.

(c) (i) Jot down what the blotted out numbers should be in the table.

(2 marks)

(ii) Use the information in the table to test the claim that:
“Babies have a greater probability of being born at night.”
Show how you used the figures to decide.

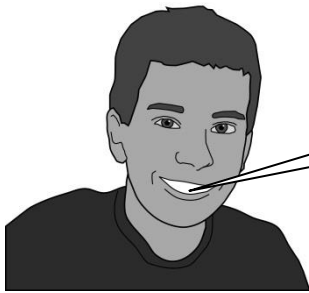
(4 marks)

The table Rik has used is over 50 years old. He finds some more up-to-date information.

- (d)** Does the up-to-date information agree with 1950/51 figures about whether or not babies have a greater probability of being born at night? Support your answer with some evidence.

(4 marks)

(e) Investigate this claim.



Baby boys are heavier than baby girls.

(5 marks)

Examiner use only (Q2)

Checking (2 marks)

Examiner use only (Checking)

Total marks

Examiner use only (Total)

END OF TASK B

TASK C – THE BIRTHDAY CAKE

You will need Task C Resource Document 1

Riley is in his first year at catering college.

He wants to make and ice a 3-tier birthday cake.
It is for his sister Ella's 21st birthday.



Riley's first task is to work out the diameters of the three cakes needed.
He looks back at his cake making notes.

Number of servings depends on diameter of the cake				
Diameter (cm)	15	20	25	30
Servings	15	30	45	60

- Q3 (a) (i)** How many people will a **2-tier** cake with cakes of diameters 15 cm and 20 cm serve?

(1 mark)

- (ii)** Ella expects about 130 people at her 21st.
Riley realises he will need to make a 3-tier cake.

What diameter cakes will Riley need to make?

(2 marks)

Each of the cakes is to be iced separately.

Riley found this simple recipe for cake icing on the internet.

Ingredients
600g icing sugar
30g egg white
This recipe is sufficient for a 25 cm diameter cake

Method

He also found this:

**Icing a cake to an even thickness can be difficult.
Split the cake icing into two piles.
Make one pile twice the weight of the other.
Spread the lighter pile on the top and the other round the side of the cake.**

- (c) According to this rule what weight of icing sugar is needed to ice the top of a 25 cm diameter cake?

(3 marks)

Riley needs to ice all three cakes.

- (d)** Roughly, what weight of each icing ingredient will he need?
Explain how you arrived at your answer.

(4 marks)

Examiner
use only
(Q3)

Checking (2 marks)

Examiner
use only
(Checking)

Q3 (plus checking) marks

Examiner
use only
(Total)

END OF TASK C

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