OCR
RECOGNISING ACHIEVEMENT

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

FUNCTIONAL SKILLS ASSESSMENT PILOT

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS

SAMPLE ASSESSMENT MATERIALS

SEPTEMBER 2007

INSTRUCTIONS TO CANDIDATES

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

Centre name	
Centre number	
Your OCR candidate number	
Your surname or family name	
Your first forename (if any)	
Your second forename (if any)	
Date of birth	

YOU NEED

- This task booklet
- A pen with black or blue ink

You may use a calculator.

INSTRUCTIONS

YOU HAVE 1 HOUR AND 15 MINUTES TO COMPLETE THE 3 TASKS. YOU ARE ADVISED TO SPEND 5 MINUTES PLANNING AND 20 MINUTES WORKING ON EACH TASK

- Read the tasks inside this booklet carefully before starting
- Write your answers in this booklet
- When you have finished, hand this booklet to the supervisor

FOR EXAMINERS' USE ONLY	
Task No.	**Mark**
Total	

This document consists of 12 printed pages and 0 blank pages

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[Turn over

Task 1

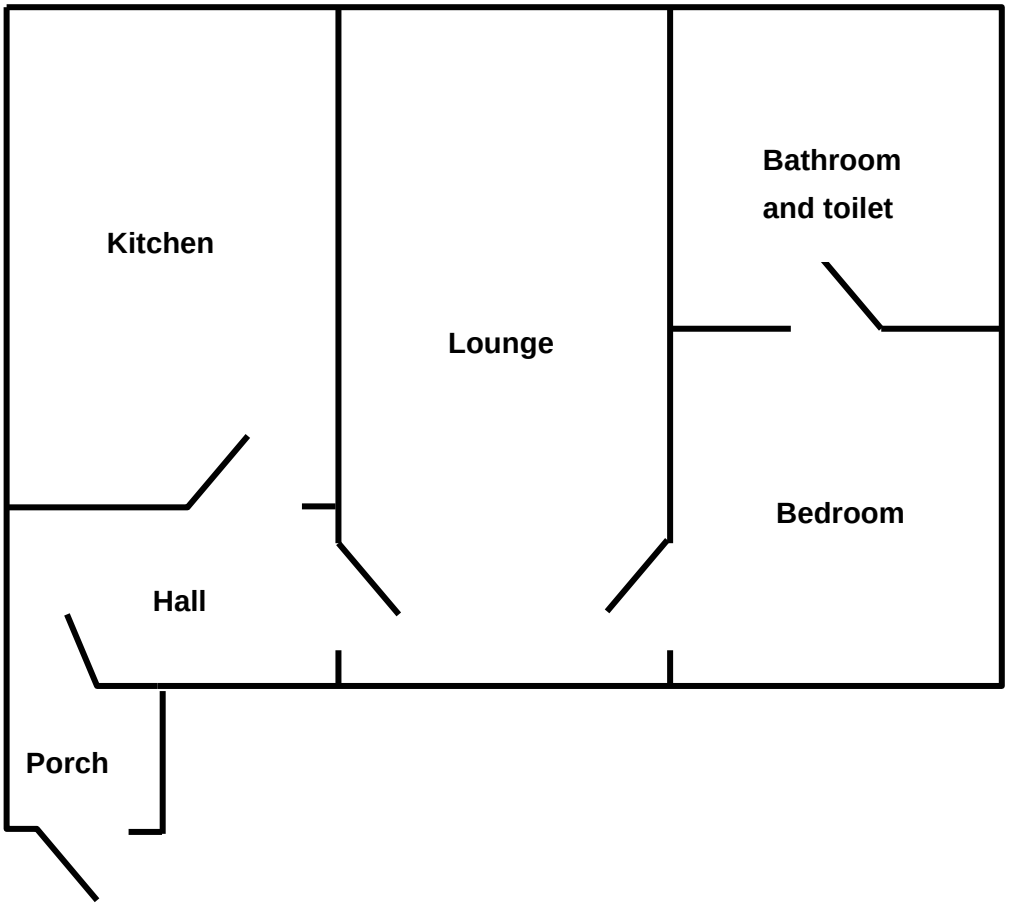
Planning sheet

Any work on this sheet will not be directly marked, but may be used to contribute to the examiner's understanding of your answer.

Task 1

Light Bulbs

When Emma goes to college, she is going to live in a student flat.
This is the floor plan of the flat.



Floor plan

NOT TO SCALE

- Each room and the porch have a centre light.
- There are two table lamps in the lounge and two bedside lights in the bedroom.
- All the bulbs in the flat are conventional light bulbs.

Emma plans to replace the conventional light bulbs with energy saving bulbs.

(a) Use the table to make a list of conventional bulbs that Emma needs for her flat.

Conventional bulb (Watts)	General use
40	Child's bedside light that might be left on at night.
60	Bedside reading light, wall light.
100	Table lamp, centre light.
150	Large standard lamp.

[2]

This table shows the energy saving bulbs that can be used to replace conventional bulbs.

Conventional bulb (Watts)	Energy saving bulb (Watts)
40	10
60	15 - 18
100	20 - 25
150	32

(b) List the energy saving bulbs that Emma needs to replace her conventional bulbs.

[2]

(c) Emma thinks that she can save over 700W of power by replacing the conventional bulbs with energy saving bulbs. Is she right?

[12]

Credit will be given for well organised work, where you make clear the method and calculations you have used in your answers.

Task 2

Planning sheet

Any work on this sheet will not be directly marked, but may be used to contribute to the examiner's understanding of your answer.

Task 2

Science Experiment

In a science experiment, Kay is investigating stretching a spring by adding weights to it.

She measures the length of the spring without any weights and finds it is 5.5cm long.

She then adds a100gm weight and measures the new length of the spring as 8.0cm.

She does this with another nine 100gm weights until the total weight on the spring is 1.0kg and measures the length of the spring each time.

She gets the following lengths for the spring 10.5cm, 13.0cm, 15.5cm, 17.0cm, 20.5cm, 23.0cm, 25.5cm, 28.0cm and 30.5cm.

a) Kay knows that the formula to find the extension of the spring is

Extension = measured length – original length

She uses this formula to make a table of weight and extension. What will Kay's table look like?

[4]

b) Kay predicts that the extension of her spring is the same for each 100gm weight which is added. How can she test this prediction?

[8]

c) Kay says that she could use her spring as a spring balance. Is she right?

[4]

Credit will be given for well organised work, where you make clear the method and calculations you have used in your answers.

Task 3

Planning sheet

Any work on this sheet will not be directly marked, but may be used to contribute to the examiner's understanding of your answer.

Task 3

Dice game

Jayne has invented a game played with an ordinary, six sided, die.

This is the end of the board. Players win points.

10	11	12	13	14	15	16
	No win but Smile!	Go forward two squares	Lose half your points	Double your points	Go back two squares	Home

She plays the game with her friend Alan.
Jayne is on square 10. So far she has won 30 points.

Jayne throws the die. She thinks she is more likely to land on square 15 than square 12.

a) Explain why Jane is wrong.

[2]

Jayne lands on one of the squares shown.

b) How likely is it that Jayne has fewer points after her throw?

[4]

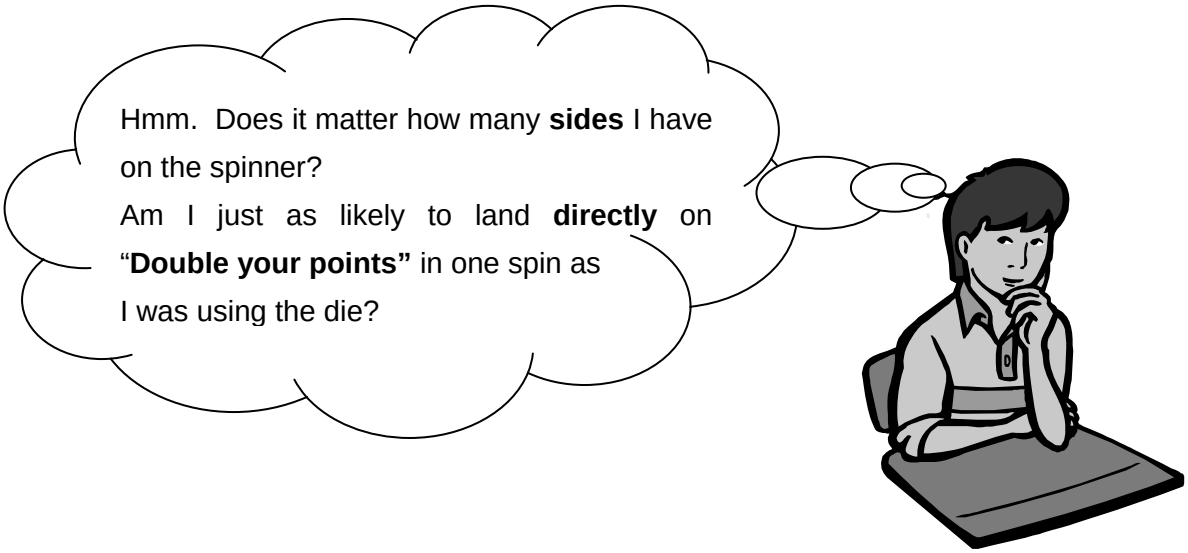
Alan's counter was behind Jayne's before her last throw.
He now throws the die and ends up on square 14.

c) What squares could Alan's counter have been on before his throw?

[4]

Jayne decides to play the game with a spinner.
She numbers the spinner 1, 2, 3, …..

10	11	12	13	14	15	16
	No win but Smile!	Go forward two squares	Lose half your points	Double your points	Go back two squares	Home



d) What are the answers to Jayne's questions?

[6]

Credit will be given for well organised work, where you make clear the method and calculations you have used in your answers.