

Write your name here

Surname

Other names

Edexcel
Functional Skills

Centre Number

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Candidate Number

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Mathematics

Level 1



18–22 July 2011

Time: 1 hour 30 minutes

Paper Reference

FSM01/01

You must have:

Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm, protractor, compasses.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- **Calculators may be used.**

Information

- The total mark for this paper is 48.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- **Where you see this sign you must show clearly how you get your answers because marks will be awarded for your working out.**



Advice

- Read each question carefully before you start to answer it.
- Show all stages in the calculations.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A: Improving a lounge

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Owain is going to make a bookcase.
The bookcase will have two shelves and two side panels.

Owain sketches the bookcase he wants to make.

Owain's bookcase

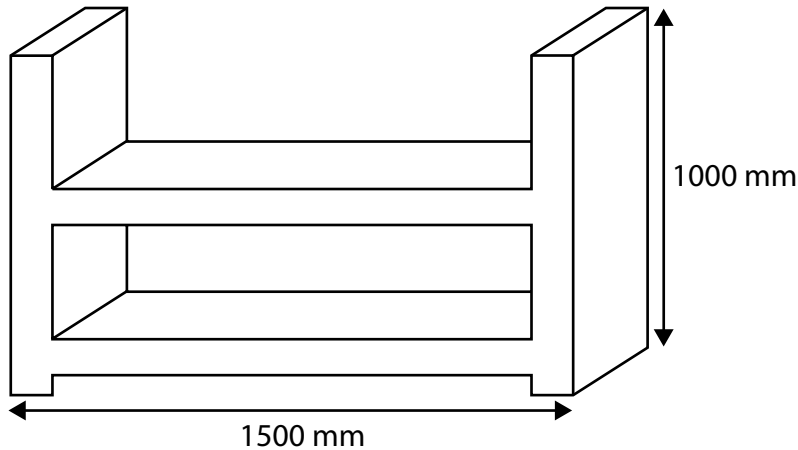


Diagram **NOT** accurately drawn

Owain has 2 planks of wood to make the bookcase.
Each plank of wood is 3000 mm long.

Owain must cut the planks of wood into the sizes he needs.

- (a) Does Owain have enough wood to make the bookcase?
Show why you think this.

(2)

Use the box below to show clearly how you get your answer.



A large, empty rectangular box with rounded corners, intended for the student to show their work and answer the question.

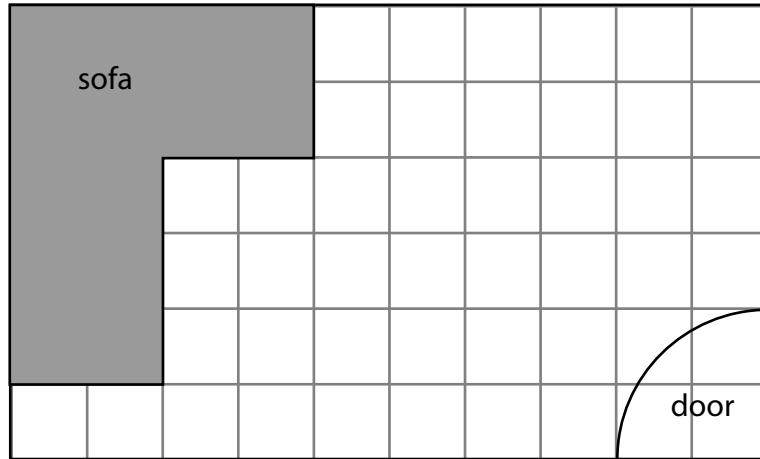


Owain wants to put the bookcase in the lounge.

He also wants to put a table in the lounge.

Owain needs to decide where to put the bookcase and the table.

He draws a plan of the lounge on a centimetre squared grid.



Key: 1 cm on the grid = 50 cm in the lounge

The table needs a square space 100 cm wide.

The table must be no more than 100 cm away from the sofa.

The bookcase is 150 cm long and 50 cm wide.

The bookcase must be against a wall.

(b) Draw the table and the bookcase on the plan.

(4)

(Total for Question 1 is 6 marks)



- 2 There are 2 windows in Owain's lounge.
The 2 windows have the same measurements.

Here is a diagram of one of the windows.

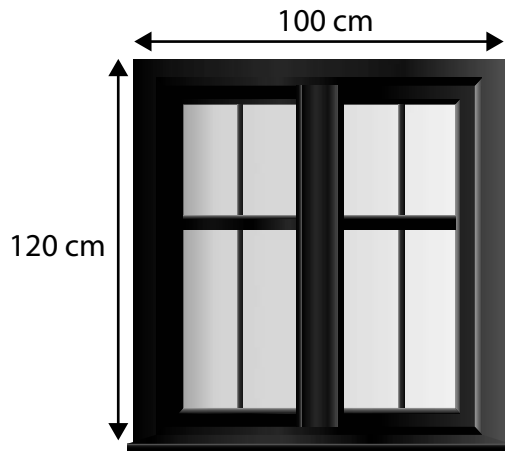


Diagram **NOT**
accurately drawn

Owain wants to buy new window blinds.
The cost of window blinds depends on their size.

The table gives information about different sized window blinds.

Window blind type	Cost in £	Length in cm	Width in cm
A	53.33	120	100
B	66.43	130	100
C	55.69	120	105
D	68.69	130	105
E	61.43	120	110
F	76.49	130	110



Owain wants the window blinds to be longer than the window.
He also wants them to be wider than the window.

(a) Choose the type of window blinds for Owain to buy.

(1)

Write your answer in the box below.

(b) How much will it cost Owain to buy the 2 window blinds?

(2)

Use the box below to show clearly how you get your answer.

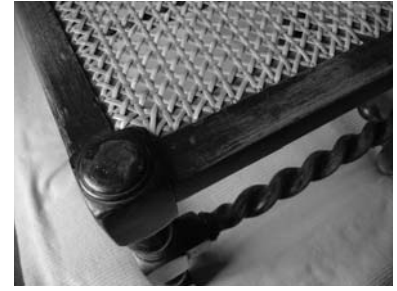


(Total for Question 2 is 3 marks)



- 3 Owain has a cane seat.
The cane seat is broken.

Owain finds this information about the cost of repairing the seat from two different companies.



Foster's Furniture

Repair of cane seat:
£1.70 per drill hole

Jack's Repairs Ltd

Repair of cane seat:
£75

There are 48 drill holes in Owain's cane seat.

Which company is cheaper?

(3)

Use the box below to show clearly how you get your answer.



(Total for Question 3 is 3 marks)



4 Owain needs to drive to these towns to buy things for his lounge.

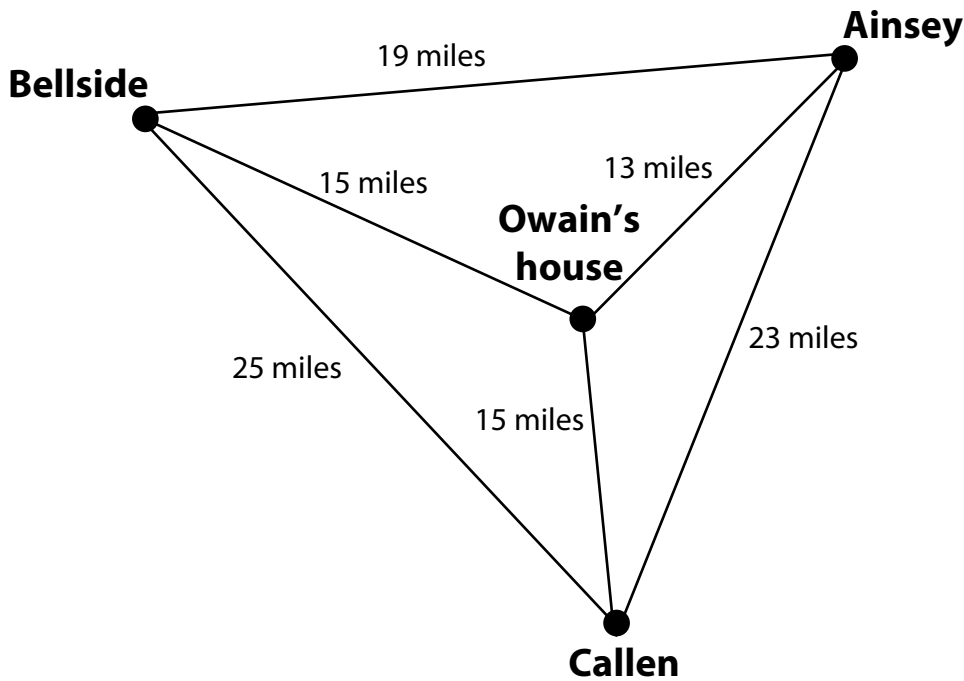


Diagram **NOT** accurately drawn

Owain is going to leave his home in the morning. He will drive to all three towns and then return home.

Find the shortest route for Owain.

(4)

Use the box below to show clearly how you get your answer.



(Total for Question 4 is 4 marks)



SECTION B: Pet rabbits

Answer all questions in this section.

Write your answers in the spaces provided.

5 Cathy keeps pet rabbits.

She wants to buy a new rabbit hutch.

Cathy finds this rule to work out how much floor space a rabbit needs inside a hutch.

$$\text{Floor space needed in cm}^2 = \text{Weight of rabbit in kg} \times 2000$$

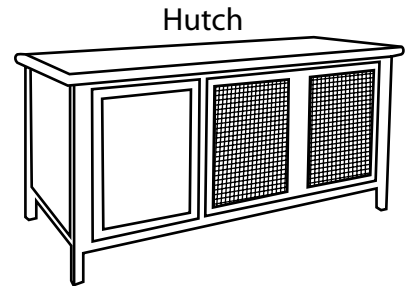
Cathy's biggest rabbit has a weight of 3.25 kg.

Cathy sees a hutch that she likes.

The floor area of this hutch is 7000 cm².

(a) Is this hutch big enough for a rabbit with a weight of 3.25 kg?

(3)



Use the box below to show clearly how you get your answer.



Cathy needs to buy a new water bowl and some food for the rabbits.

She finds this information in the pet shop.

Item	Size	Cost (£)
Water bowl	600 ml	7.50
	900 ml	9.00
Rabbit food	10 kg bag	7.00
	15 kg bag	9.50
	20 kg bag	11.00

Cathy needs to buy one water bowl.

She wants to buy as much rabbit food as possible.

She has £40 to spend.

(b) Which water bowl and which bags of rabbit food should Cathy buy?
Show why you think this.

(4)

Use the box below to show clearly how you get your answer.



(Total for Question 5 is 7 marks)



- 6 The rabbits need a space to run in the garden.
Cathy needs to put wire fencing around this space.
The diagram shows a plan of Cathy's garden.

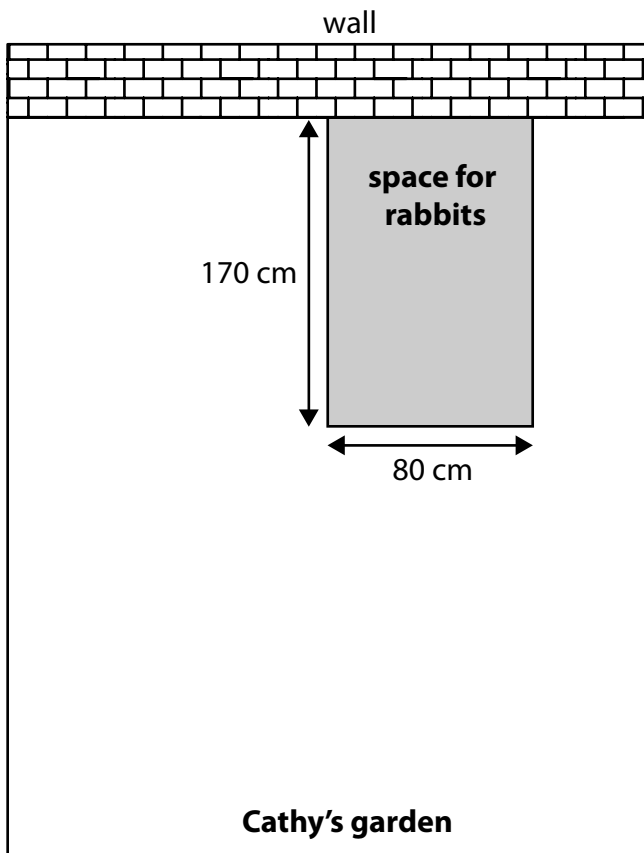


Diagram **NOT** accurately drawn

Cathy does not need to put wire fencing where the wall is.

(a) How many **metres** of wire fencing does Cathy need?

(3)

Use the box below to show clearly how you get your answer.



A large empty rectangular box for writing the solution.



Cathy chooses this wire fencing.



Roll of wire fencing

£6.50 per metre

(b) How much will Cathy pay for the wire fencing?

(2)

Use the box below to show clearly how you get your answer.



A large empty rectangular box for writing the answer and showing the calculation.

(Total for Question 6 is 5 marks)



P 3 5 8 9 8 A 0 1 1 2 0

7 Cathy sells baby rabbits to a pet shop.

She keeps a record of how many baby rabbits she sells each month.

The table shows the number of baby rabbits she sold in the first half of the year.

Month	Jan	Feb	Mar	Apr	May	Jun
Number of baby rabbits sold	5	8	10	6	4	9

Cathy says,

'My calculations show that the mean number of baby rabbits I sold each month is 7 and the range is 4'

Check Cathy's calculations of the mean and range.

(4)

Use the box below to show clearly how you get your answer.





A large, empty rectangular box with rounded corners, intended for writing an answer.

(Total for Question 7 is 4 marks)





P 3 5 8 9 8 A 0 1 3 2 0

SECTION C: Health care

Answer all questions in this section.

Write your answers in the spaces provided.

- 8** Mr Jenkins goes to see the doctor.
The doctor tells him to take two different types of tablet each day.

 <p>Tablet A</p>	Take 1 tablet, 3 times a day at regular intervals
 <p>Tablet B</p>	Take 1 tablet, 4 times a day at regular intervals

Mr Jenkins needs to plan when to take each tablet.
He must leave the same amount of time in between taking each type of tablet.

He plans to take Tablet A and Tablet B when he gets up at 7.30am.
He plans to take Tablet A and Tablet B when he goes to bed at 10.30pm.

(a) When should Mr Jenkins take each tablet?

(3)



Mark with a cross (×) in the timetable below to show when Mr Jenkins should take each tablet.

	Tablet A	Tablet B
0730	×	×
0800		
0830		
0900		
0930		
1000		
1030		
1100		
1130		
1200		
1230		
1300		
1330		
1400		
1430		
1500		
1530		
1600		
1630		
1700		
1730		
1800		
1830		
1900		
1930		
2000		
2030		
2100		
2130		
2200		
2230		



Mr Jenkins went to the doctor on Friday 3rd June.
The doctor told him,

'You need to see the nurse in 3 to 4 weeks time'

The nurse only works on Mondays and Wednesdays.

(b) When could Mr Jenkins see the nurse?

(2)

Show your answer clearly on the calendar below.

June						
Mon	Tues	Wed	Thur	Fri	Sat	Sun
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July						
Mon	Tues	Wed	Thur	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

(Total for Question 8 is 5 marks)

9 Yasmin goes to the health food shop to buy some vitamins.

She has some discount vouchers.



The usual price of the vitamins is £9.60
Yasmin wants to pay the cheapest price for the vitamins.
She can only use one of the discount vouchers.

Which discount voucher should Yasmin use?

(5)



Use the box below to show clearly how you get your answer.



(Total for Question 9 is 5 marks)



10 Shirley is a manager at a health centre.
She needs to find out how long people wait to see the doctor.

Shirley decides to collect the following information when people leave the health centre:

time of day

- morning
- afternoon
- evening

waiting time

- less than 5 minutes
- between 5 and 15 minutes
- more than 15 minutes.

(a) Design a data collection sheet to record the information.

(3)

Use the box below to show your data collection sheet.



Lindon is a manager at a different health centre.
He collects information from 300 people.

Lindon finds that:

- one out of three people waited for less than 5 minutes
- a quarter of the people waited between 5 and 15 minutes.

Health centre managers have this target:

- less than half of the people must wait for more than 15 minutes.

(b) Has Lindon met the target?

(3)

Use the box below to show clearly how you get your answer.



(Total for Question 10 is 6 marks)

TOTAL FOR PAPER IS 48 MARKS



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