

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



9–13 January 2012

**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

**My signature confirms that I will not discuss the content of the test with anyone until the end of the 5 day test window.**

Signature: \_\_\_\_\_

## 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.
- Sign the declaration.
- 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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6/4



**PEARSON**

**SECTION A: Oven cleaning**

**Answer all questions in this section.**

**Write your answers in the spaces provided.**

**1** Rob works as a self-employed oven cleaner.

Last week he recorded the jobs he did in a tally chart.

<b>Job</b>	<b>Tally</b>
Single oven	III
Double oven	
Hob	I
Barbecue	
Fan	I

The table below shows Rob's pay for each job.

<b>Job</b>	<b>Pay (£)</b>
Single oven	40
Double oven	50
Hob	20
Barbecue	35
Fan	25

(a) What was Rob's total pay last week?

**(3)**

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



Here is the list of jobs Rob has to do on Monday.  
The time for each job includes Rob's travelling time.

Mrs Andrews	double oven	morning	(2 hours)
Mr Lang	hob & fan	afternoon	(1½ hours)
Betty Grey	single oven	morning or afternoon	(1½ hours)
Sam Bell	barbecue	morning or afternoon	(1½ hours)

Rob wants to

- start work at 9 am
- finish work by 5 pm
- have at least 30 minutes for his lunch break.

Rob needs to plan the order he will do the jobs.  
He needs to know the time he will start each job.

(b) Make a time plan for Rob for Monday. (3)

Show your time plan in the box below.

**(Total for Question 1 is 6 marks)**



2 Pete is Rob's brother.  
Pete wants a job.

Rob says

Come and work for me.  
Work from Monday to Friday.  
I will pay you £45 a day.

Pete sees this job advert in the local paper.

**Cleaner wanted Mon-Fri**

30 hours per week.

£7.30 per hour.

Tel 01234 456789

Pete wants to earn as much money as possible.

(a) Which job pays the most money?

(3)

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



Large empty box for writing the answer.



(b) Show a check of one of your calculations for the pay. (1)

Write your check in the box below.

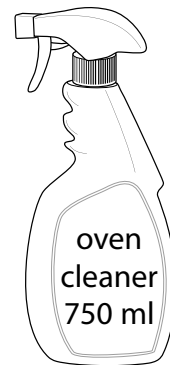


**(Total for Question 2 is 4 marks)**



3 Rob buys oven cleaner in 5 litre containers.

He pours the oven cleaner into 750 ml spray bottles.



How many spray bottles can Rob fill up completely from the 5 litre container?

(3)

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 3 is 3 marks)



- 4 Rob did not have a holiday last year.  
He wants to have a holiday in the Lake District this year.

Rob does not earn any money when he is on holiday.

The table below shows the amount of money he was paid each month last year.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
£2100	£1520	£2350	£2450	£1450	£1500	£1580	£1930	£1890	£1670	£1850	£2500

Rob wants to go on holiday when the temperature is likely to be at least 15°C.

This table shows the average daily temperature in the Lake District for each month.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5°C	6°C	9°C	10°C	14°C	16°C	20°C	18°C	16°C	13°C	10°C	8°C

In what month should Rob go on holiday in the Lake District?  
Explain why you think this.

(3)

Give your answer and explain it in the box below.

(Total for Question 4 is 3 marks)



## SECTION B: The May fair

Answer all questions in this section.

Write your answers in the spaces provided.

- 5 Gareth organises a fair in May each year.

The table shows the weather on the day of the fair for each of the last 10 years.

<b>Year</b>	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Weather</b>	dry	dry	wet	dry	dry	wet	dry	wet	dry	wet

(a) Is the weather more likely to be wet or dry on the day of the fair this year?

(1)

**Explain** your answer in the box below.





There will be a space for the children's races at the fair.  
The space will be 75 m long and 25 m wide.

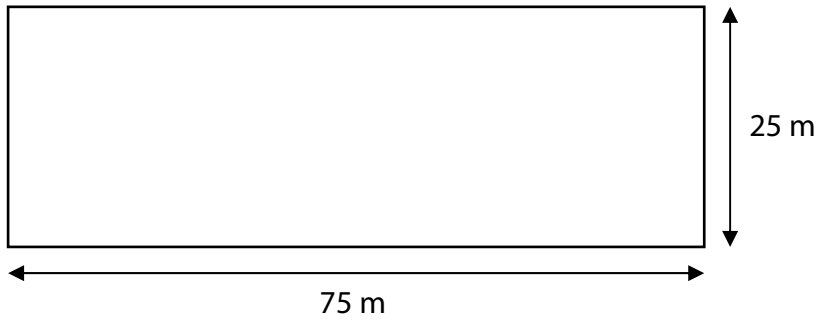


Diagram **NOT**  
accurately drawn

Gareth needs to put netting around this space.

He has 5 rolls of netting  
Each roll is 50 m long.

(b) Does Gareth have enough netting to go around this space?

(3)

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



A large empty rectangular box for the student to show their work.

(Total for Question 5 is 4 marks)



P 3 7 6 7 4 A 0 9 2 0

6 Gareth has spent £196 on items for the fair.

There is a car boot sale at the fair.

There is space for up to 6 vans and up to 24 cars at the car boot sale.

The charges are

vans £10

cars £8

Gareth has bookings for 4 vans and 19 cars.

Gareth needs to get at least £196 from the charges for vans and cars.

Will Gareth get enough money from the 4 vans and 19 cars?

(3)

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



**(Total for Question 6 is 3 marks)**



- 7 Anya makes some chilli to sell at the fair.  
She has this recipe for chilli.

**Chilli**

**Serves 6**

450 g mince  
1 onion  
1 can tomatoes  
1 can kidney beans  
2 tbsp tomato puree  
1 pinch chilli powder  
1 pinch garlic powder

Anya's recipe serves 6 people.

She is going to make chilli for 30 people.

(a) What weight of mince does Anya need?

(3)

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



Anya is in charge of the food tent at the fair.  
She needs a rota for helpers in the food tent.

Anya knows that

- the helpers are Beth, Cam, Donna, Eddy, Fran and Gez
- she needs helpers from 12 noon until 5 pm
- there must always be at least 2 helpers on duty
- no-one should work for more than 2 hours
- Beth needs to leave by 3 pm
- Cam cannot start until 2 pm
- Donna and Eddy cannot work at the same time
- Fran and Gez can work at any time.

(b) Complete the rota for Anya.

(4)

Show your rota clearly in the box below.

Time	Helpers
12 noon to 1 pm	
1 pm to 2 pm	
2 pm to 3 pm	
3 pm to 4 pm	
4 pm to 5 pm	



**(Total for Question 7 is 7 marks)**

- 8** Neelam brings a bouncy castle to the fair.  
People pay to have a go on the bouncy castle.  
People pay a total of £260 for goes on the bouncy castle.  
Neelam has to give 25% of the £260 to the organiser.

How much money does Neelam have to give to the organiser? (2)

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



**(Total for Question 8 is 2 marks)**



### SECTION C: The design company

Answer all questions in this section.

Write your answers in the spaces provided.

- 9 Jill owns a design company.  
She wants to move her staff to a new office.

She looks at some offices.  
Jill needs to know if these offices are large enough.

One office is rectangular.  
The office floor is 6 metres long and 4 metres wide.

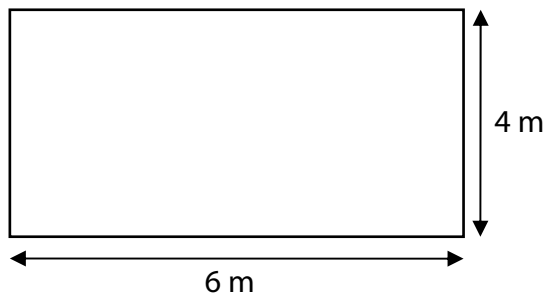
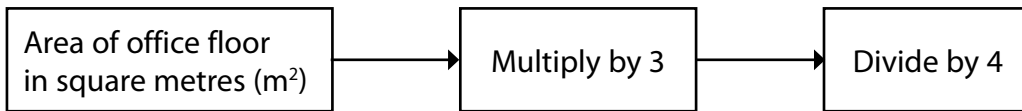


Diagram **NOT**  
accurately drawn

Jill uses this rule to work out the number of cubic metres of space each of her staff gets in this office.



She knows that each of her staff must have at least 11 cubic metres of space.

(a) Is this office large enough?

(5)



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



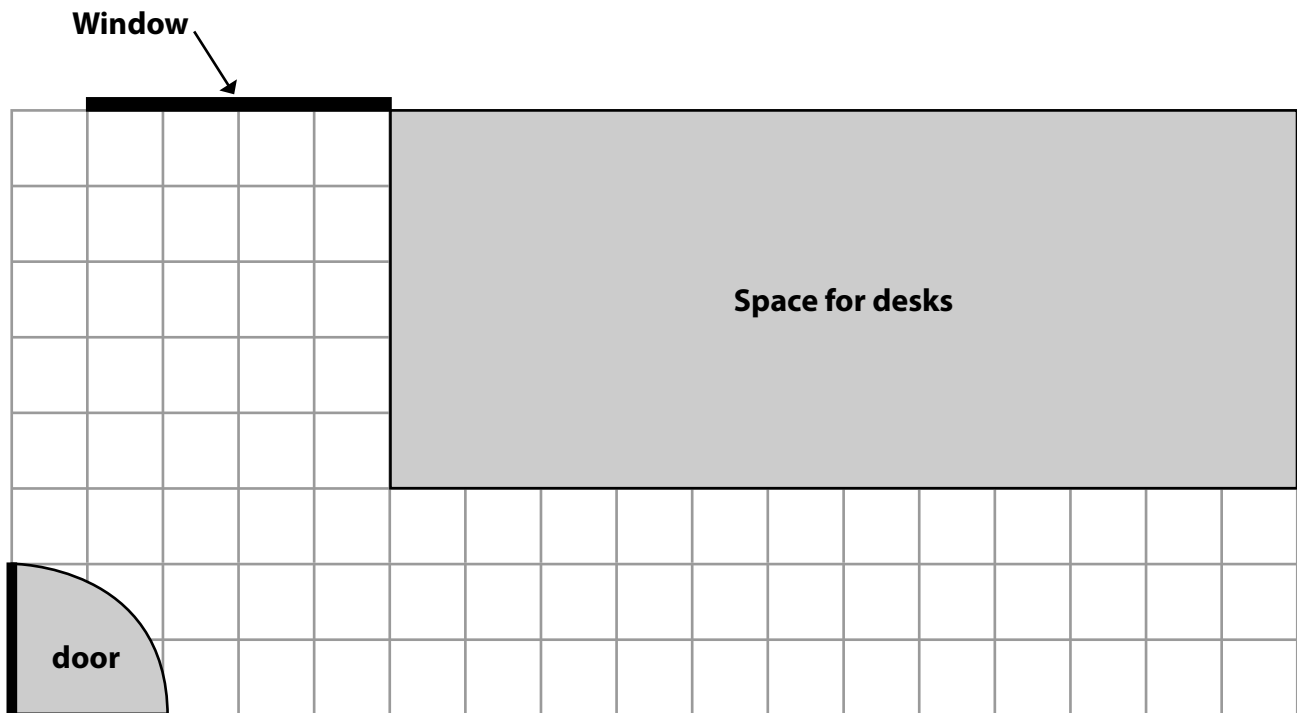
A large, empty rectangular box with rounded corners, intended for the student to show their work.



P 3 7 6 7 4 A 0 1 5 2 0

Jill chooses a different office.  
She needs to plan how the furniture will fit in the office.

Jill draws a plan of the office floor on a centimetre squared grid.  
All of the desks will go in the shaded space.



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

Jill wants to have a space for refreshments and a cabinet in the office.

The space for refreshments will be rectangular,  
200 cm long by 150 cm wide  
in a corner.

The cabinet needs a rectangular floor space,  
100 cm long by 50 cm wide  
against a wall  
**not** in front of the window.



(b) Draw the space for refreshments and the cabinet on the grid. (4)

(Total for Question 9 is 9 marks)





**10** Jill wants to get a loan from her bank for her company.  
The bank manager needs information about Jill's company.

The table shows the profit for each of the last 5 years.

Year	2007	2008	2009	2010	2011
Profit (£)	130 000	155 000	145 000	165 000	180 000

The bank manager says,

'If your mean profit over the last 5 years is at least £154 000  
the bank will give you a loan.'

(a) Will the bank give Jill a loan?

(3)

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



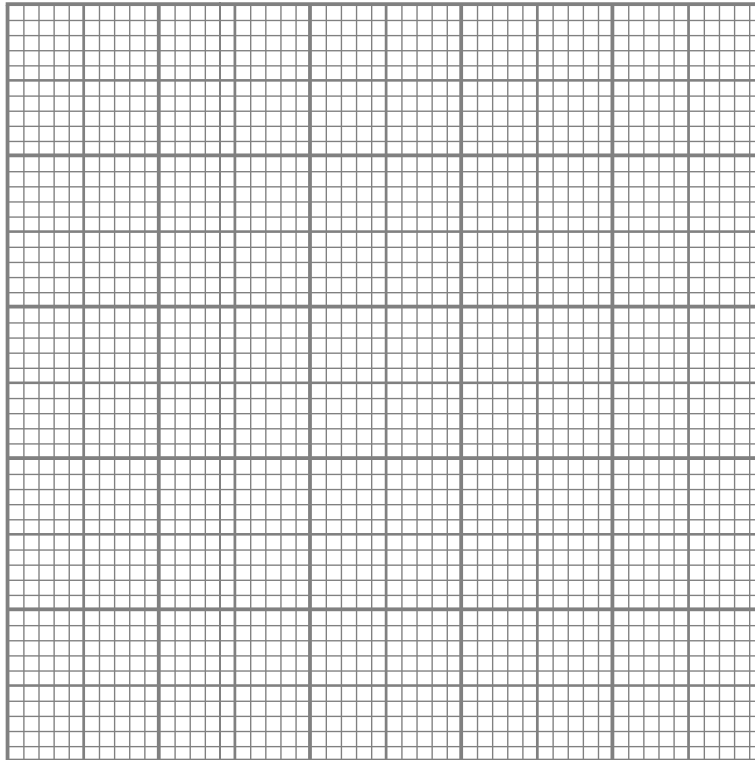
Jill wants to use a graph or chart to display her profits over the last 5 years.

Here is the table showing her profits.

<b>Year</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Profit (£)</b>	130 000	155 000	145 000	165 000	180 000

(b) Draw a graph or chart for Jill.

(3)



Jill hopes to show the bank manager that her business is getting better.

(c) Is Jill's business getting better?  
Give a reason for your answer.

(1)

Use the box below to explain your answer clearly.

**(Total for Question 10 is 7 marks)**

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**TOTAL FOR PAPER IS 48 MARKS**



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