

Write your name here

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**Edexcel**  
**Functional Skills**

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# Mathematics

## Level 1



10–14 October 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

--

**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.
- 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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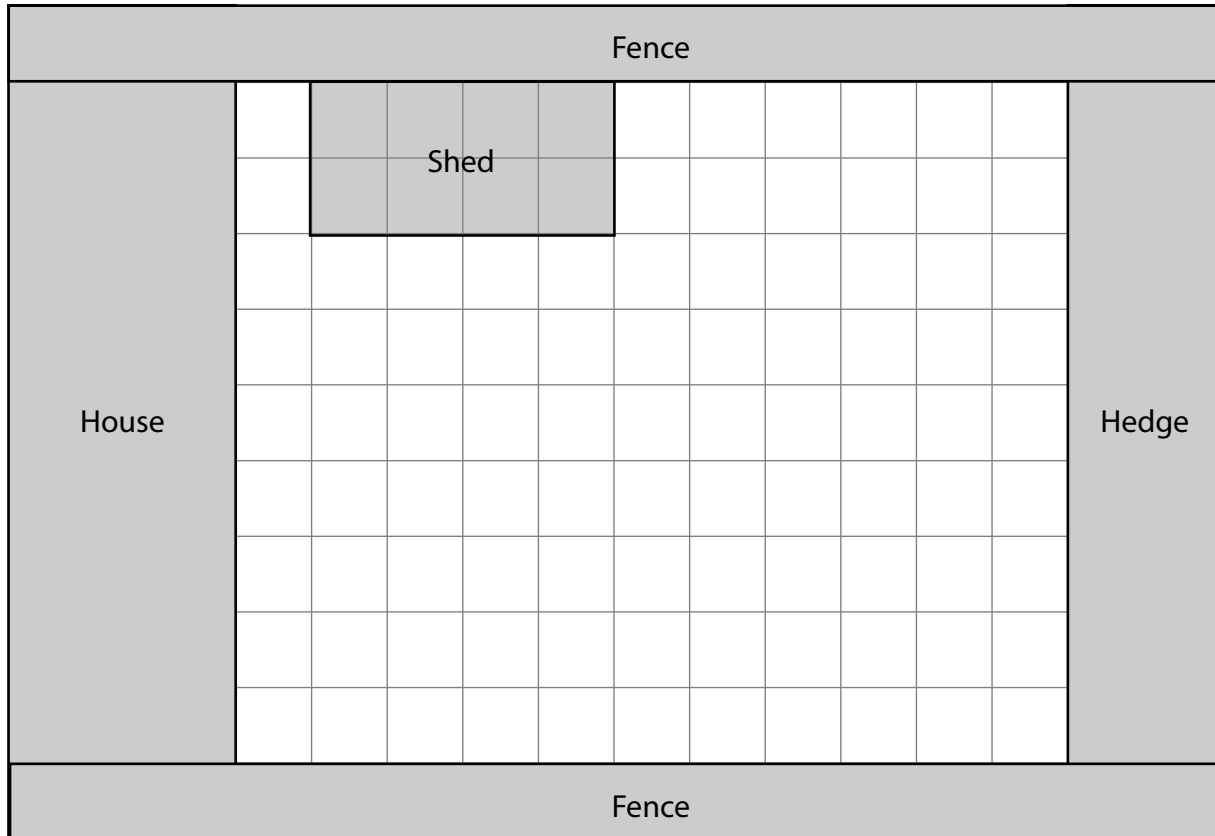
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## SECTION A: Garden

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Mabintou wants to have two vegetable plots in her garden. She draws a plan of her garden.



Key: 1 cm on the plan = 1 m in the garden

Each vegetable plot will be

- in the shape of a rectangle 3 m by 2 m
- at least 1 m from any fence or hedge
- at least 6 m from the house.

(a) Show the **two** vegetable plots on Mabintou's plan.

(3)



Mabintou is going to cover the rest of the garden with fertiliser.  
She will **not** put fertiliser on the vegetable plots.

(b) What is the area of the rest of the garden?

(1)

Use the box below to show your answer clearly.

Mabintou asks a gardener to do some work in her garden.  
The gardener charges £11.50 per hour.

One week the gardener works for a total of 7 hours.

(c) How much money does Mabintou pay the gardener?

(2)

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



(Total for Question 1 is 6 marks)



2 This chart shows information about planting vegetable seeds.

Vegetable seeds	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Maximum number of seeds in a growbag
Aubergine									3
Runner beans									8
Carrot									not suitable
Courgette									2
Leek									not suitable
Parsnip									not suitable
Peppers									3

Key:  Plant seeds

(a) Write down two different types of vegetable seeds that Mabintou can plant in March. (1)

Write your answer in the box below.

Mabintou wants to plant 10 aubergine seeds. She will plant the aubergine seeds in growbags.

Mabintou says she will need 4 growbags for the 10 aubergine seeds.



(b) Use the information in the chart to show that Mabintou is right. (2)

Use the box below to show your answer clearly.



Mabintou is going to plant some runner bean seeds.

She will plant the seeds in a row.  
The row will be 2 m long.

There has to be a distance of 30 cm between each seed.

(c) How many seeds can Mabintou plant in a 2 m row?

(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 working.

**(Total for Question 2 is 6 marks)**



- 3 Mabintou wants to grow some potatoes.  
She will grow the potatoes in large buckets.



Mabintou has to fill the buckets with compost.  
She wants to buy at least 100 litres of compost.

Mabintou can buy compost in 3 different sized bags.



Mabintou wants to pay as little as possible for the compost.

How much will Mabintou have to pay for the compost?

(4)



Use the box below to show clearly your answer and comparisons.



A large, empty rectangular box with rounded corners, intended for the student to write their answer and comparisons.

**(Total for Question 3 is 4 marks)**



## SECTION B: Quiz

Answer all questions in this section.

Write your answers in the spaces provided.

- 4 Each year, Lesley organises a quiz evening to raise money for charity. She needs to make a poster to advertise the quiz evening.

The table shows the amount of money the quiz evening raised in each of the last 6 years.

Year	Money raised (£)
2005	240
2006	300
2007	280
2008	180
2009	320
2010	270

Lesley wants to show the mean amount of money raised on her poster.

She works out that the mean amount of money raised per year is £280

- (a) Is Lesley right?  
Show why you think this.

(3)

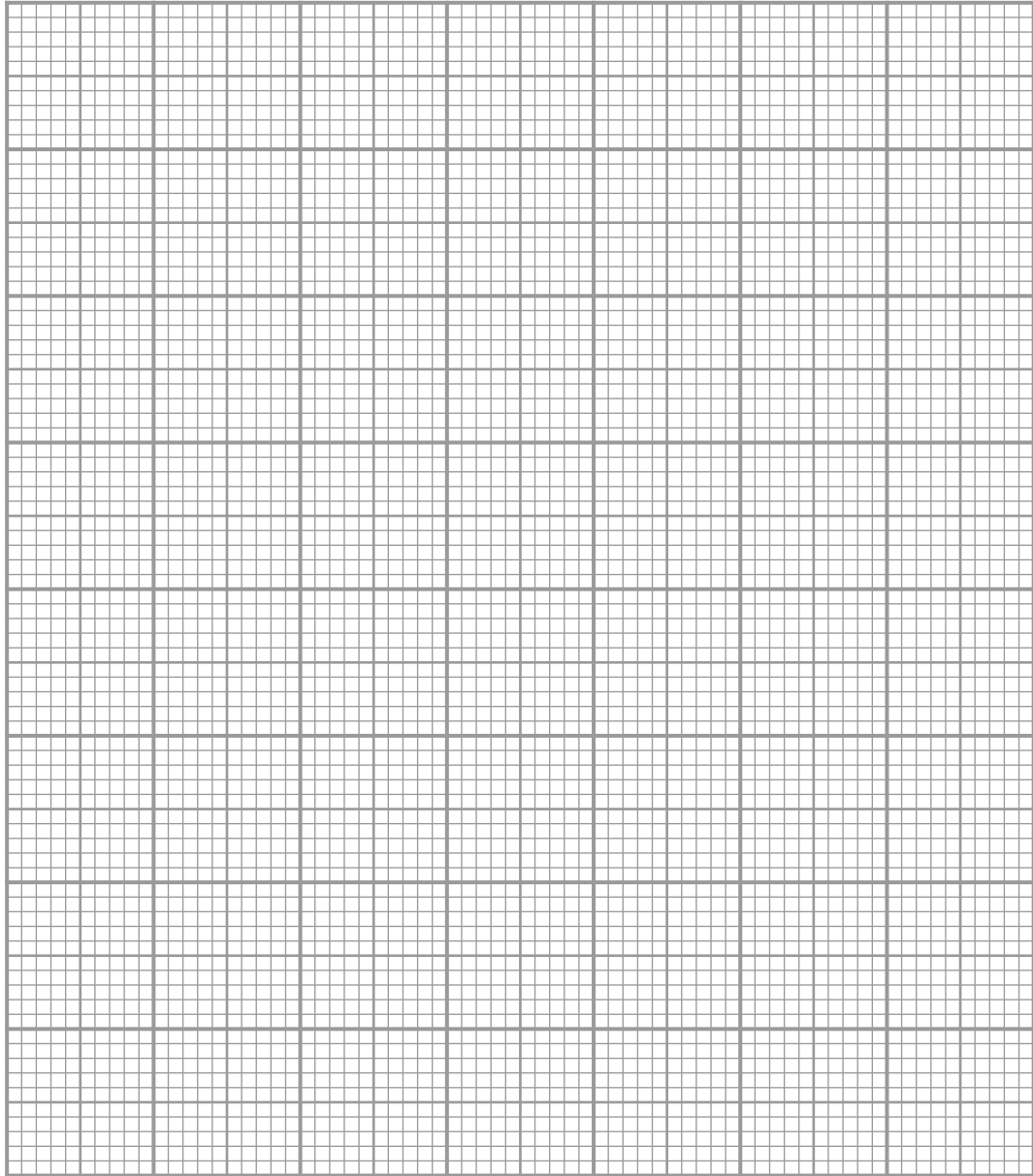
Use the box below to show clearly how you get your answer.





Lesley wants to display the information in the table on her poster.

(b) Draw a graph or chart for Lesley. (3)



**(Total for Question 4 is 6 marks)**



5 People who come to the quiz evening will have a meal.

People can choose one main course and one dessert.

## **Menu**

### **Main course**

Fish and chips  
Chicken and chips  
Vegetable pasty and chips

### **Dessert**

Chocolate cake  
Cheesecake

People will be in teams for the quiz.  
There will be 6 people in each team.

Lesley needs a data collection sheet for each team.

Each sheet must have space to record

- the names of the 6 people in the team
- what each person chooses to eat.

(a) Design a data collection sheet that Lesley can give to each team coming to the quiz.

(3)



Use the box below to show clearly your data collection sheet.

A large, empty rectangular box with a thin black border, intended for students to draw or write their data collection sheet. It occupies most of the page's vertical space.

P 4 0 7 1 2 A 0 1 1 2 0

Lesley is going to buy some bread rolls for the quiz evening.  
There are 8 bread rolls in a pack.  
There will be 90 people at the quiz evening.  
Each person will have one bread roll.

(b) How many packs of bread rolls does Lesley need to buy?

(2)

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



Lesley has a budget of £900 to buy the food and prizes for the winning team.

Lesley pays a total of £600 for the food.  
She buys 6 prizes costing £5 each.

Lesley will give all the money that is left out of the £900 to charity.

(c) How much money will Lesley give to charity?

(2)

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



**(Total for Question 5 is 7 marks)**



6 During the quiz, teams get

- 5 points added for each right answer
- 2 points taken away for each wrong answer.

There are six rounds in the quiz.

The people in Joe's team check their total score for the six rounds.

This record card shows the number of answers Joe's team got right in each round. It also shows the number of answers they got wrong in each round.

Joe's Team	Round					
	A	B	C	D	E	F
<b>Right answers</b>	8	7	5	5	4	9
<b>Wrong answers</b>	2	3	5	5	6	1

Work out the total score for Joe's team.

(3)

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



(Total for Question 6 is 3 marks)



### SECTION C: Rome

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Tim lives in London.  
He is planning a holiday to Rome.

The airline he wants to use flies from two airports in London – Gatwick and Heathrow.

Tim finds this information on the internet.

London to Rome		
Time	London airport	Cost (£) per person
07 10	Gatwick	65
07 10	Heathrow	82
09 10	Heathrow	114
12 40	Heathrow	97
14 05	Gatwick	75
14 15	Heathrow	84
15 40	Heathrow	92
18 20	Heathrow	89

Rome to London		
Time	London airport	Cost (£) per person
07 50	Heathrow	172
11 55	Heathrow	241
15 00	Heathrow	177
18 25	Gatwick	146
18 45	Heathrow	302
20 25	Heathrow	165

Tim must fly from Heathrow after 13 00

He must fly from Rome back to Heathrow after 12 00 but before 19 00

Tim wants to pay as little as possible.

(a) Which flights should he choose?

(2)

Use the box below to show your answer.



Tim is going to stay in Rome for 3 nights.  
He wants to stay at Hotel Roma.  
A room at Hotel Roma costs £75 per night.

Tim has a budget of £500 to pay for

- the flights he has chosen
- a room for 3 nights at Hotel Roma.

(b) Can Tim afford to pay for these flights and to stay at Hotel Roma?

(3)

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



A large empty rectangular box for writing the answer.

**(Total for Question 7 is 5 marks)**



8 Tim wants to go on some tours in Rome.

He finds this information about tours on the internet.

Tour	Departure time	Length of tour	Days
<b>Ancient Rome</b>	09 00	4 hours	Sun, Wed
<b>Catacombs</b>	14 30	3 hours	every day
<b>Colosseum</b>	10 00, 15 30	3 hours	every day
<b>Pompeii</b>	07 30	12 hours	Tues, Thurs
<b>Rome by night</b>	21 15	1 $\frac{1}{2}$ hours	Mon, Wed
<b>Vatican</b>	09 30, 14 30	3 hours	every day but <b>not</b> Sundays
<b>Wine tasting</b>	14 15	3 $\frac{1}{2}$ hours	Mon, Thurs

Tim decides to go on tours on Saturday and Sunday.  
He wants tours that finish before 6 pm.

Tim wants to go on the Vatican tour **and** two other tours.

Tim wants a plan showing his three tours.  
The plan must show the day, start time and finish time of each tour.


Make a plan for Tim.

(5)





Use the box below to show your plan.



**(Total for Question 8 is 5 marks)**



9 Tim wants to take his case as hand luggage.

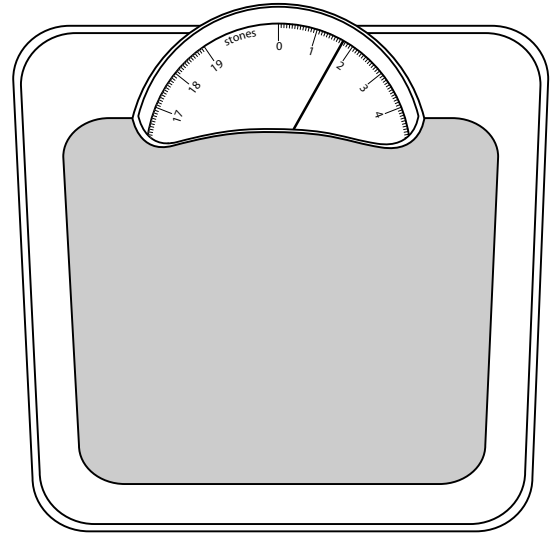
The weight of each piece of hand luggage must be less than 10 kilograms.

Tim's scales show the weight in stones and pounds.

He finds this rule to change stones and pounds into kilograms.

To find the number of kilograms

multiply the number of stones by 14  
add on the number of pounds  
write down the result  
divide the result by 2.2



Tim's case has a weight of 1 stone and 10 pounds.

Can Tim take his case as hand luggage?

(3)

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



(Total for Question 9 is 3 marks)



10 Tim wants to record four TV programmes while he is on holiday.

Day	Programme	Starts	Finishes
Thursday	Top Gear	8 pm	9 pm
Friday	Mad Men	10:50 pm	11:40 pm
Saturday	Casualty	8:10 pm	9 pm
Sunday	The Bourne Identity	8 pm	10:20 pm

There is only  $5\frac{1}{2}$  hours of recording time left on Tim's recorder.

Is there enough recording time left for all four TV programmes?

(3)

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



(Total for Question 10 is 3 marks)

TOTAL FOR PAPER IS 48 MARKS



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