

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



13-17 June 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: The zoo

Answer all questions in this section.

Write your answers in the spaces provided.

1 Mr Akram is going to drive his family to the zoo.

He wants to work out how long it should take to drive to the zoo.

Mr Akram uses this formula:

$$\text{Time taken} = \text{distance travelled} \div \text{average speed}$$

The zoo is **75 miles** away from where the Akram family live.

Mr Akram wants to drive at an **average speed of 50 miles per hour**.

(a) How long should it take Mr Akram to drive to the zoo?

(2)

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



The Akram family get to the zoo at 10.20 am.

The zoo closes at 6.45 pm.

They want to stay at the zoo until it closes.

(b) How long can the Akram family stay at the zoo?

(2)

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



(Total for Question 1 is 4 marks)



2 Here are the entrance fees to the zoo.

Adult (17 years and older)	£ 19.75 per adult
Child (4 years to 16 years)	£ 12.50 per child
Senior citizen (60 years and older)	£ 12.50 per person
Family ticket (2 adults and 2 children)	£ 55.00
Under 4 years old	Free

Mr Akram is 42 years old.

Mrs Akram is 41 years old.

Their son, Josan, is 12 years old.

Their daughter, Laxmi, is 9 years old.

Mrs Akram thinks the family ticket will be cheaper than buying a ticket for each person.

(a) Is Mrs Akram right?

(4)

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



Here is a timetable for some of the shows at the zoo.

Show	Show times					How long the show lasts
	10.30	11.30	13.30	14.30	15.30	
Seals	10.30	11.30	13.30	14.30	15.30	15 minutes
Birds of Prey	10.45	11.45	12.45	13.45		30 minutes
Reptiles		11.00	13.00	14.00	15.00	30 minutes
African Adventure		12.00	13.30	15.00	16.30	45 minutes
Dolphins		11.15	13.45	14.45	15.45	30 minutes
Penguins		12.00	13.20	14.40		20 minutes
Big Cats	10.45	11.30	13.45		16.00	30 minutes
Allow 15 minutes to walk between the shows						

The Akram family wants to see these shows

- the Reptiles
- the Big Cats
- the Dolphins
- the African Adventure.

They decide to see the Big Cats at 10.45
They want to spend 30 minutes eating lunch.

The Akram family wants a timetable for the day.

The timetable must include

- the start time and the finish time for each show they will see
- the time for lunch.

The Akram family needs to allow 15 minutes to walk between the shows.



(b) Make a timetable for the Akram family.

(5)

Write your timetable in the box below.

(Total for Question 2 is 9 marks)



3 The Akram family sees this sign in the zoo.

Ten new meerkats born this year	
Zamu (male)	Asi (female)
Newi (male)	Wisi (male)
Jung (female)	Shmu (female)
Lan (male)	Katak (male)
Bodong (male)	Harriet (female)

Laxmi wants to sponsor the next meerkat that is born.

Josan thinks the next meerkat that is born is more likely to be a male than a female.

(a) Is Josan right?

Explain why you think this.

(1)

Write your answer in the box below.



The Akram family go into the zoo gift shop.

Here is a list of some of the things on sale in the gift shop.

Big Cats pen set	£ 3.75
Dolphin pen set	£ 3.75
Postcard	60p
Big Cats poster	£ 3.25
Dolphins poster	£ 3.25

Mrs Akram says she will buy some things for Josan and Laxmi.

Josan chooses the Big Cats pen set.

Laxmi chooses the Dolphins poster and a postcard.

Mrs Akram pays with a £10 note.

(b) How much change should Mrs Akram get?

(2)

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



(Total for Question 3 is 3 marks)



SECTION B: The restaurant

Answer all questions in this section.

Write your answers in the spaces provided.

4 Phil owns a restaurant.

Phil is planning to interview 9 people for the job of restaurant manager.
He has time to interview 4 people in a day.

Phil wants to know the least number of days he needs to use for the interviews.

(a) What is the least number of days Phil needs to use for the interviews? (2)

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



(b) Show how you can check your answer in the box below. (1)

Phil wants to make a data collection sheet for the interviews.

He needs to give each of the 9 people a score for

- qualifications
- experience
- communication skills
- professionalism.

(c) Design a data collection sheet for Phil to use. (3)



Use the box below to show the data collection sheet.

(Total for Question 4 is 6 marks)



5 Jenny is planning a birthday party for her husband at Phil's restaurant.

Phil's menu shows the prices per guest.

Menu	
Starters:	
Soup (V)	£4.50
Pate and toast (N)	£5.75
Prawn cocktail	£4.75
Garlic mushrooms (V)	£5.00
Main Courses:	
Meaty Feast pizza (S)	£9.50
Vegetarian pizza (V)	£7.95
Spaghetti Bolognese	£10.45
Roast chicken	£12.50
Nut roast (V) (N)	£8.95
Vegetarian lasagne (V)	£9.75
Desserts:	
Tiramisu (V)	£5.75
Chocolate cake (V) (N)	£5.50
Fresh fruit salad (V)	£4.50
Cheesecake (N)	£6.50
Key:	
(V) – vegetarian option	
(N) – contains nuts	
(S) – spicy	

Jenny knows

- some of the guests are vegetarian
- one of the guests must not eat any food containing nuts
- some of the guests do not like spicy food.

Jenny is going to choose the same starter, the same main course and the same dessert for all the guests.

Jenny can spend up to £20 per guest on the food.

Choose a starter, a main course and a dessert for Jenny's guests.

(4)



Use the box below to show clearly your menu choices and prices.



A large, empty rectangular box with rounded corners, intended for the student to draw or write their menu choices and prices.

(Total for Question 5 is 4 marks)



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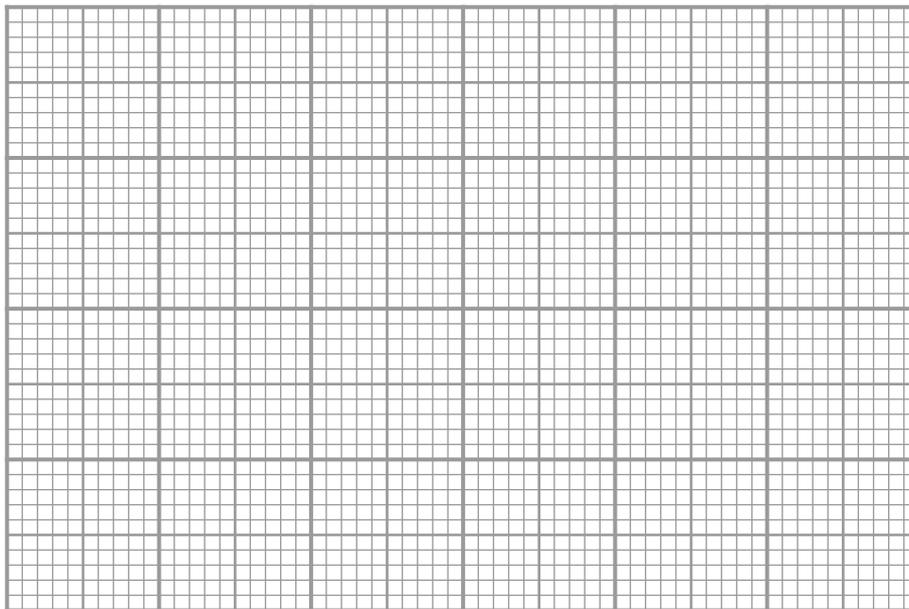
6 The restaurant staff keep a tally of the number of desserts left over each evening.

The table shows a tally for one evening.

Dessert	Tally
Tiramisu	
Chocolate cake	
Fresh fruit salad	
Cheesecake	

Phil wants to display the number of desserts left over that evening.

(a) Draw a graph or chart for Phil. (4)



Phil decides to sell the chocolate cake at a reduced price the next day.

The menu price of the chocolate cake is £5.50

Phil reduces the menu price of the chocolate cake by 50%.

(b) What is the reduced price of the chocolate cake?

(2)

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



(Total for Question 6 is 6 marks)



SECTION C: The living room

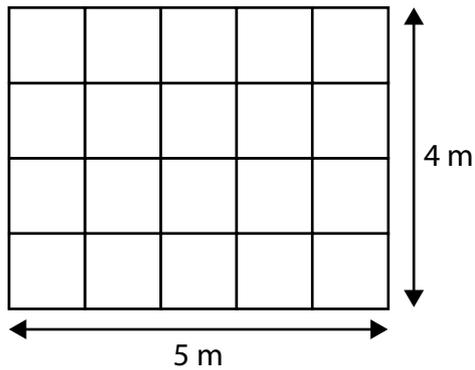
Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Mr and Mrs Chang want to buy a carpet for their living room.

The room is a rectangle.
It is 5 m long and 4 m wide.

The diagram below shows the living room floor.



Mr and Mrs Chang need to work out how much carpet to buy.

(a) Find the area of the living room floor.

(2)

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



Mr and Mrs Chang want to buy a carpet for the living room and have the carpet fitted.
They can buy the same make of carpet from two different shops.

A* Carpet Store

£10.95 per square metre

Fitting cost: £2.50 per square metre

Carpets Bright

£11 per square metre

Fitting cost: £45

Mr and Mrs Chang want to pay the cheapest total price for the carpet and fitting.

(b) Which shop should they buy the carpet from?

(4)

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



(Total for Question 7 is 6 marks)



8 Mrs Chang wants to put a mirror on the wall above the fireplace.

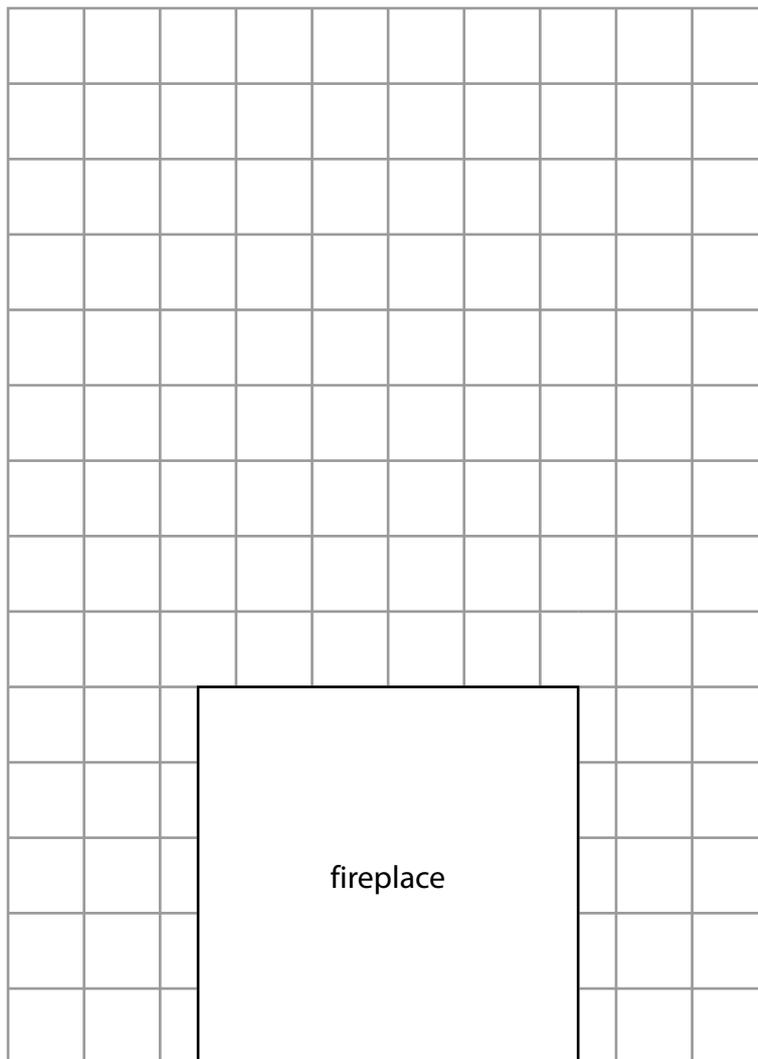
The mirror is in the shape of a rectangle.
It is 800 mm by 1200 mm.

Mrs Chang wants the mirror to be an equal distance from the right hand side and the left hand side of the fireplace.

She wants the bottom of the mirror to be between 200 mm and 600 mm above the top of the fireplace.

On the plan below, show where Mrs Chang could put the mirror.

(3)



Key: 1 square on the grid is 200 mm on the wall

(Total for Question 8 is 3 marks)



- 9 Mrs Chang wants new tiles for the fireplace.
She works out that she needs a total of 60 tiles.

Mrs Chang wants to use red tiles and blue tiles.
She is going to use 1 red tile to every 2 blue tiles.



(a) How many red tiles and how many blue tiles does Mrs Chang need? (2)

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



A large empty rectangular box for writing the solution to the problem.



Mr and Mrs Chang want to burn coal in their fireplace.

They know

- they will burn an average of 2 kg of coal per day in winter
- coal is sold in 25 kg bags.

Mr and Mrs Chang want to have enough coal to last them till the end of January.

At the beginning of November they buy 10 bags of coal.



(b) Have Mr and Mrs Chang bought enough bags of coal to last them from the beginning of November to the end of January? (5)

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



A large empty rectangular box for writing the solution to the problem.



(Total for Question 9 is 7 marks)

TOTAL FOR PAPER IS 48 MARKS



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