Edexcel
Functional Skills

Centre Number

Candidate Number

Mathematics

Level 1

13–17 May 2013
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.**
- **Check your working and your answers at each stage.**

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.

SECTION A: The conference

Answer all questions in this section.

Write your answers in the spaces provided.

1 Ben Jones is going to a conference about the environment in Munich.
Emma is Ben's personal assistant.
She is going to book a hotel for him.

Ben is going to fly to Munich in the morning on Monday 15th July.
He will fly home on Friday 19th July.

July						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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				

(a) Which nights should Emma book?

(1)

Write your answer in the box below.

> Mon, Tues, Wed, Thursday
> 1st 2nd 3rd 4th
> July

These hotels in Munich have special prices for the conference.

Hotel Splendide
€129 each night
Conference offer
2 nights for the price of 1

Hotel Royal
€91 each night
Conference discount
€35 off each night

Emma wants to book the cheapest hotel for Ben.

(b) Which hotel should Emma book?
  Remember to check your calculations.

(5)

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

4 nights

Hotel Splendide

2 × 129

= €258

Hotel Royal
91 − 35 = €56
€56 × 4 = €224

Emma should book the Hotel
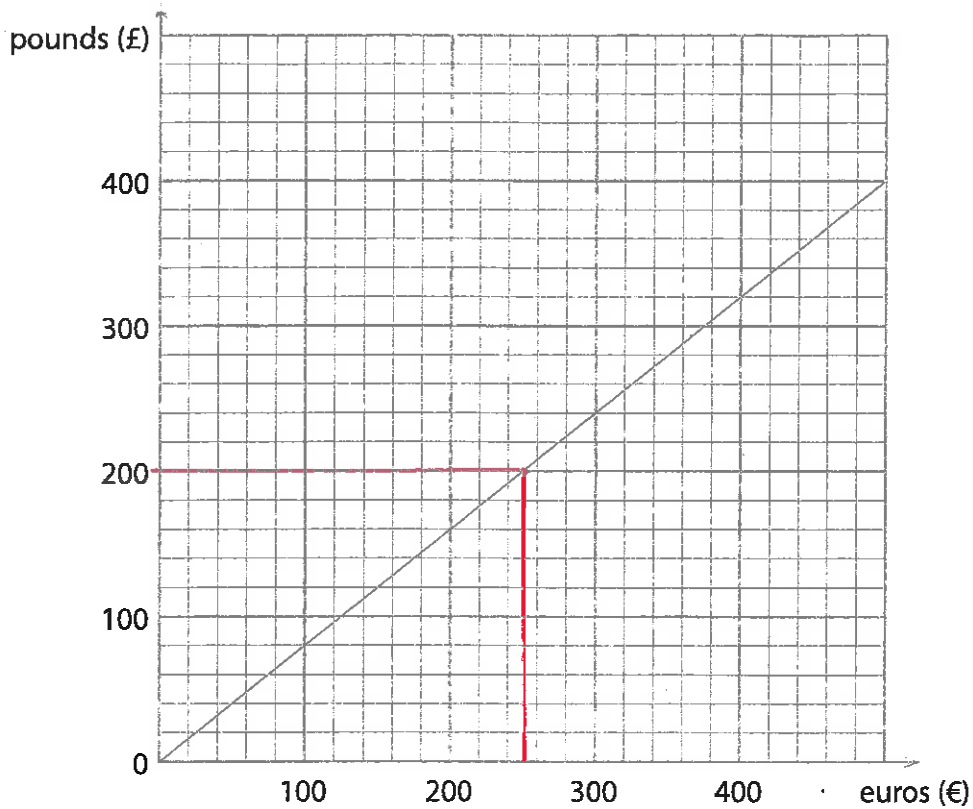Royal
~~Splendide~~ as it is cheaper

Emma wants to know how much £200 is in euros.

She finds this graph to help her convert between euros (€) and pounds (£).

(c) Use the graph to convert £200 to euros.

(2)

Write your answer in the box below.

€ 250

(Total for Question 1 is 8 marks)

2 Ben can take up to 20 kg of luggage on the plane.

His packed suitcase has a weight of 12.6 kg.

He also wants to take
- a laptop with a weight of 3 kg
- some files with a total weight of 3.8 kg

(a) Can Ben take all of this luggage on the plane?

(2)

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

12.6
3.0
3.8
19.4

Yes he can as the total weight is 19.4 kg which is less than 20kg.

The conference finishes at 3.30 pm.

It takes 50 minutes to drive from the conference centre to Munich airport.

Ben must be at the airport at least 1 hour before his flight.

The timetable shows the times of the flights from Munich.

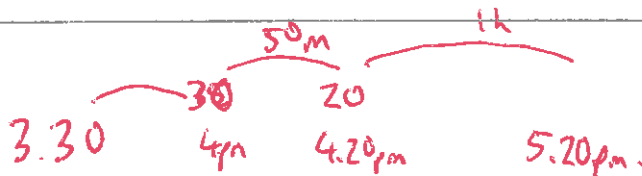| Flight number	Leaves Munich
AC123	09:05
JK432	15:25
AC302	16:20
AC498	17:35
JK101	20:30
AC007	21:35

Ben wants to get the earliest possible flight after the conference.

Emma needs to book a flight for Ben.

(b) Which flight should Emma book?

(3)

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

50m   1h

30   20

3.30   4pm   4.20pm   5.20pm.

So Emma should book the 17:35
                    flight

as Ben can be at the airport
at 4.20 more than an hour
erly

(Total for Question 2 is 5 marks)

3   There will be a total of 9 workshops at the conference on Thursday.

The first 3 workshops start at 9 am.
All the workshops take 1 hour.
The workshops must finish by 1 pm.

These are the rooms for the workshops.
The Berlin Room
The Duren Room
The Hamburg Room

The table shows the workshops and the leaders.

Workshop	Leader	Number of workshops
Recycling (R)	Manfred (M)	3
Global warming (G)	Katerina (K)	2
Transport (T)	Clara (C)	2
Energy (E)	Paul (P)	2

Make a plan for the workshops on Thursday.
Your plan must show the time and the room for each workshop.   (3)

Write your plan in the box below.

	Berlin	Duren	Hamburg
900	R	E	T
1000	R	G	T
1100	R	E	
1200		E	
1300 END.			

other options available

(Total for Question 3 is 3 marks)

4   Hal buys a pony.

He knows the height of a pony is measured in hands.
The advert in the paper says,

'Pony for sale, height 14 hands.'
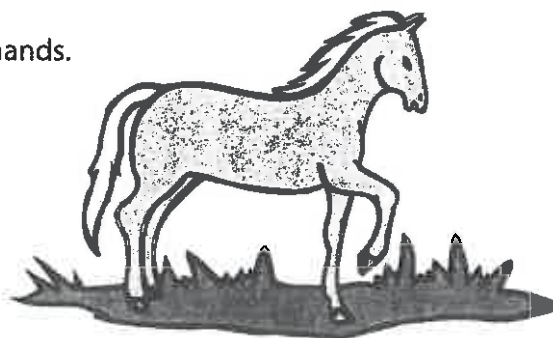
Hal thinks 14 hands is the same as 5 feet.

He finds this method for changing hands into feet.

| Height in hands | Multiply by 4 | Divide by 12 | Height in feet |

(a) Is Hal correct?
     Show why you think this.   (3)

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

14 × 4 ÷ 12 = 4.67 feet (to 2dp).
So Hal is wrong 14 hands is
less than 5 feet.

Hal knows the pony needs hay and corn in the ratio 3:1

He gives 2 kg of corn to the pony.

(b) What weight of hay should Hal give to the pony?

(2)

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

Hay   Corn

3   1

        1

        2kg

$3 \times 2 = 6$ kg of hay

5 Hal buys two more ponies.

He wants to build three stables in his barn for the ponies.

The floor of each stable must be a rectangle with sides 300 cm by 400 cm
Each stable must have a door.

The barn must have a pathway 200 cm wide so that the ponies can walk from their stables out of the barn door.
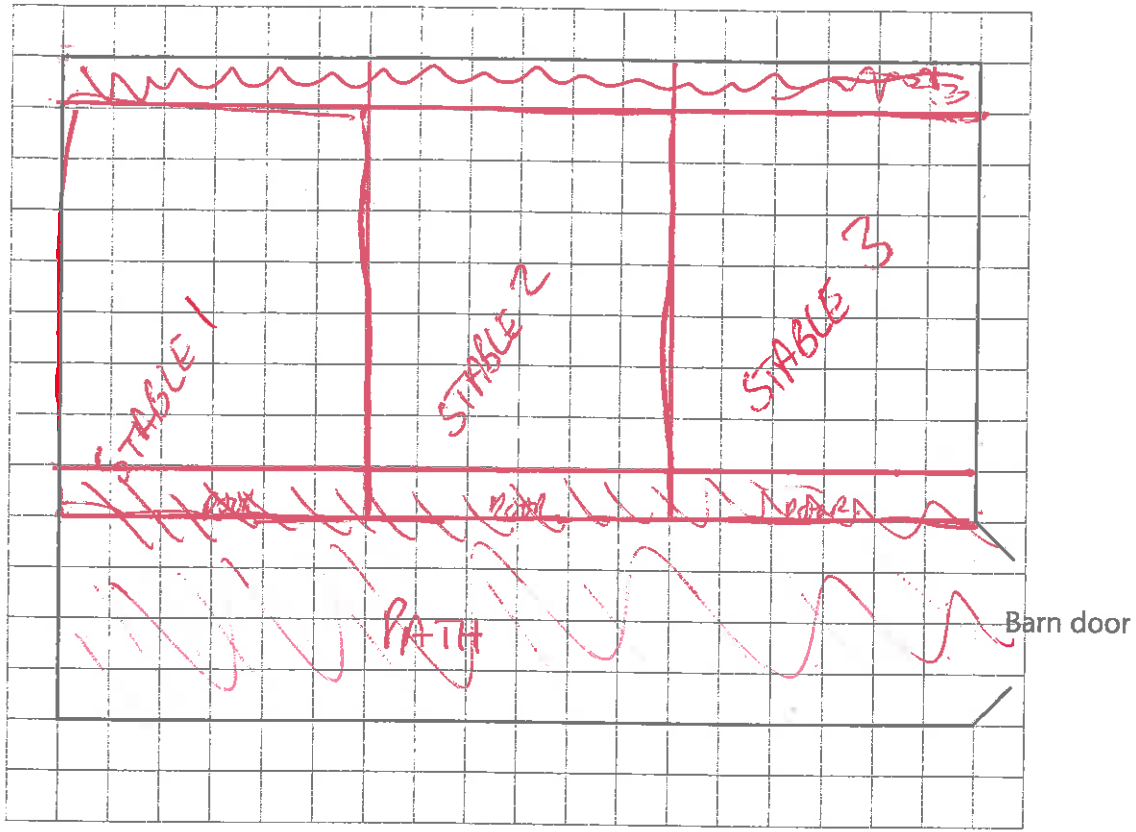The door of each stable must open onto the pathway.

Hal draws a plan of the barn on a grid.

(a) Draw the 3 stables and the pathway on the grid.

(4)

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

Barn door

300 cm by 400 cm

300 ÷ 50   400 ÷ 50

6   ×   8

200m = 4 sq.

Hal has a field where he can keep the ponies.

The area of the field is 14 970 m²

Each pony needs an area of 5000 m²

(b) Is the field large enough to keep 3 ponies?
Show a check for your answer.

(3)

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

He needs

$$3 \times 5000 \, m^2$$

$$= 15000 \, m^2$$

So he does not have enough land
as he only has 14970m²

Check

$$15000 \div 3 = 5000 \, m^2$$

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

6

Hal wants to work out the cost of horse shoes for the 3 ponies.

It costs £55 to put new horse shoes on a pony.
Hal's ponies need new horse shoes every 6 weeks.

Hal works out the cost for 1 year (52 weeks).

Work out the total cost of horse shoes for the 3 ponies for 1 year.

(4)

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

In one year would have to
re-shoe $\frac{52}{6} = 8.667$.

So will reshoe 8 times

will be $3 \times 55 = £165$ each time

So 6 times will be 6×165
$= £990$

(Total for Question 6 is 4 marks)

SECTION C: The cafe

Answer all questions in this section.

Write your answers in the spaces provided.

7 Asaf owns a cafe.

He wants a display about the breakfast foods he sells.
Asaf finds this information.

Breakfast food	Egg	Bacon	Sausage	Mushrooms	Toast
Calories (per portion)	66	120	76	62	84

(a) What is the range of the number of calories for these breakfast foods?

(1)

Write your answer in the box below.
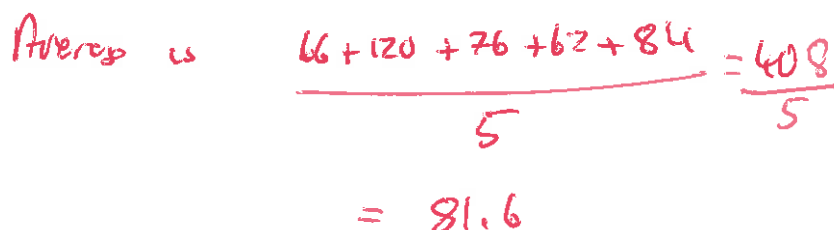
$$120 - 62 = 58$$

Asaf works out that the average number of calories for his breakfast foods is 80

(b) Is Asaf correct?
Show why you think this.

(3)

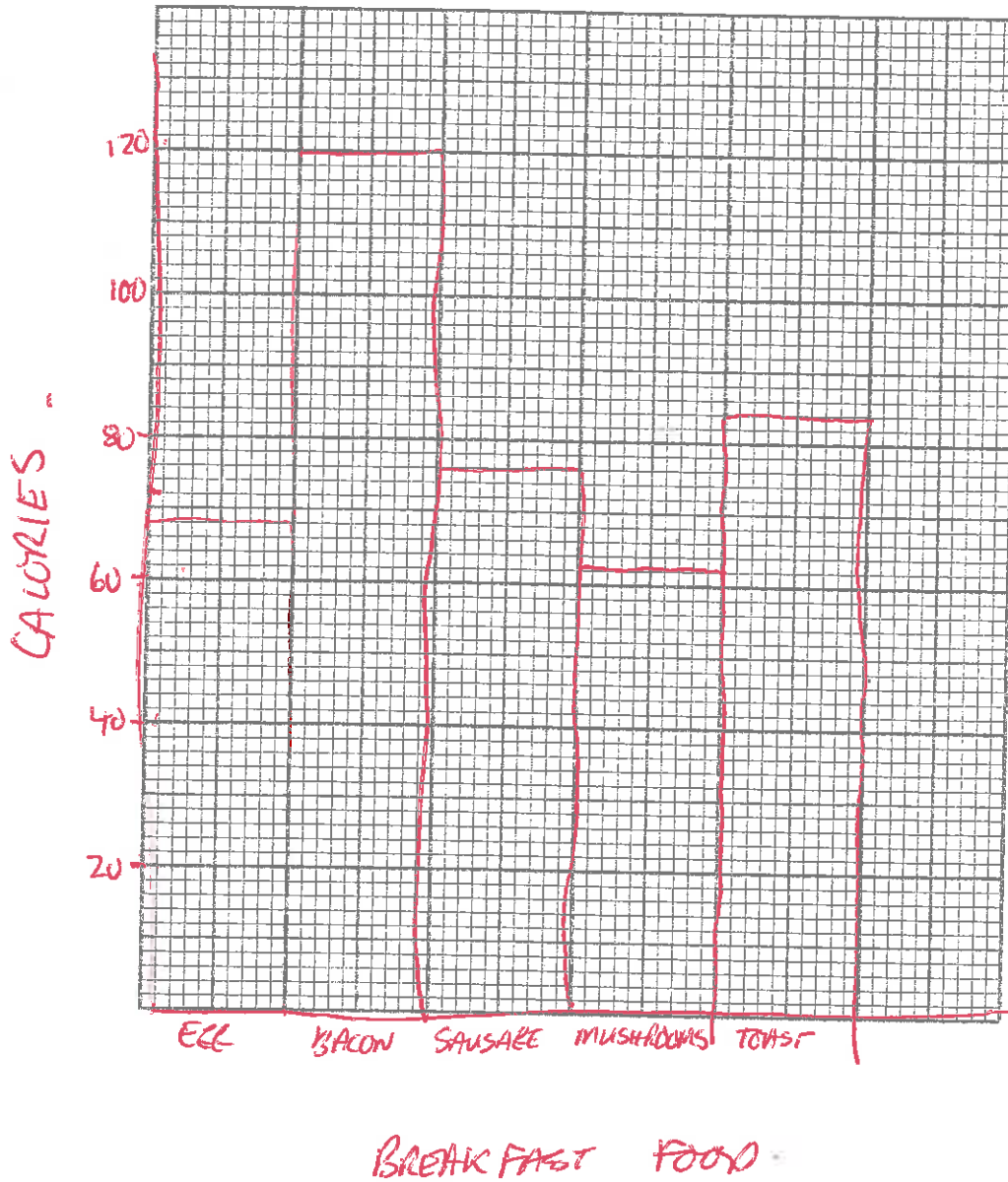Use the box below to show clearly how you get your answer.

Average is $\dfrac{66 + 120 + 76 + 62 + 84}{5} = \dfrac{408}{5}$

$= 81.6$

So No he is wrong. His average is 81.6 calories which is more than 80.

(c) Draw a graph or chart to display the number of calories in each breakfast food.

(3)

CALORIES

120
100
80
60
40
20

EGG   BACON   SAUSAGE   MUSHROOMS   TOAST

BREAKFAST FOOD

(Total for Question 7 is 7 marks)

8 Asaf wants a data collection sheet to record breakfast orders.

The breakfast menu has a choice of
   egg
   bacon
   sausage
   mushrooms
   toast.

There are 4 places at each table in the cafe.

The data collection sheet must show
   · the table number
   · the food ordered by each customer.
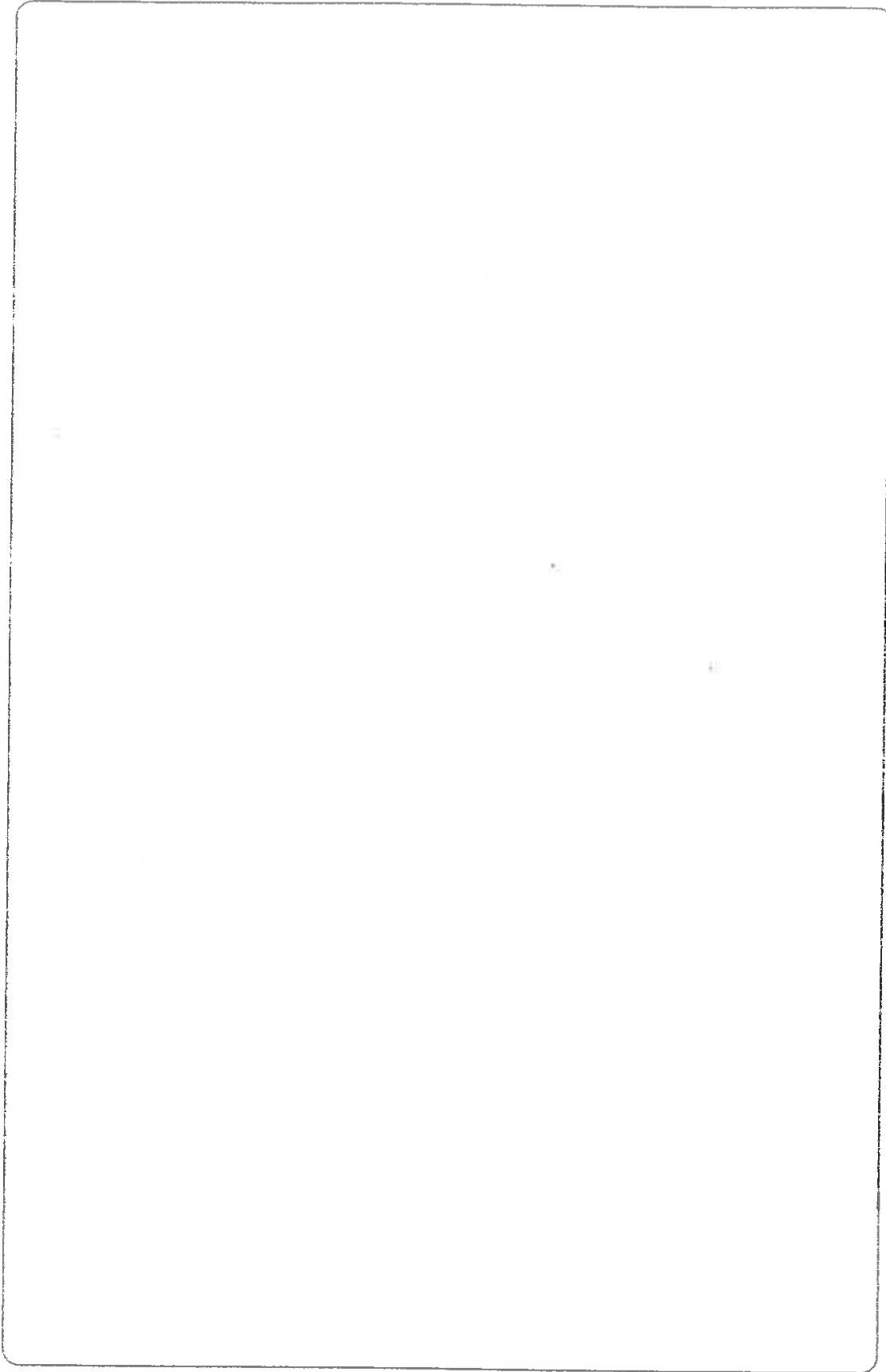
Design a data collection sheet for Asaf.

(3)

TABLE NUMBER ☐	①	②	③	④	MENU
EGG					
BACON					
SAUSAGE					
MUSHROOMS					
TOAST.					

Use the box below to show your data collection sheet.

(Total for Question 8 is 3 marks)

Price List

Food menu		Drinks menu	
Sandwiches	£2.35	Coffee	£1.45
Pie and chips	£3.45	Tea	95p
Vegetable curry and rice	£2.90	Fruit juice	95p
Jacket potatoes (filled)	£3.15	Cans	70p
Sausage, beans and chips	£3.50		

Destiny visits the cafe with a friend.
She only has £7.50 to spend.
Destiny wants to buy an item of food and a drink for each of them.

(a) Choose food items and drinks for Destiny and her friend.
    Remember to check that she can afford these items.   (3)

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

_eg_

Sandwiches   2.30
Can   0.70
_____
Total   £3

If they both have the same then
will be 2 × £3 = £6.
This is less than £7.50

Or

checks £3 - 70p = £2.30

£6 ÷ 2 = £3

P 4 2 4 5 6 A 0 1 8 2 0

Asaf puts up this notice.

> ## *Lunch Time Special*
>
> Sausage, beans and chips £3.50
>
> Kids eat for half price

Mrs Bright comes into the cafe with her grandson Alfie (age 6).

She thinks the Lunch Time Special for herself and Alfie will cost less than £5

(b) Is Mrs Bright correct?
   Show why you think this.

(3)

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

$£3.50 \div 2 = £1.75$

So price will be

Mrs Bright   £3.50
Alfie   £1.75
Total   £5.25

So Mrs Bright is not correct – she will spend more than £5.

(Total for Question 9 is 6 marks)

TOTAL FOR PAPER IS 48 MARKS

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