Surname	Other	names
In the style of: Pearson Edexcel Level 1/Level 2 GCSE (9 - 1)	Centre Number	Candidate Number
Mathemat	tics	
Frequency		Foundation Tier
GCSE style questions arra	inged by topic	Foundation Tier Paper Reference 1MA1/3F

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.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out**.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets
 use this as a guide as to how much time to spend on each question.

Advice

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







- 1 (a) Basil records the types of fish that he caught during his holiday in The Bahamas.
 - (i) Complete the table.

Type of fish	Tally	Frequency
Mutton Fish	IIII	
Grouper	III	
Jack	I III III II	
Schoolmaster	HH IIII	
	Total	

(ii) What fraction of the fish are Mutton Fish? Give your answer in its simplest form.

(2)

(3)

(b) This table shows the types of fish that Peter caught during the holiday.

Type of fish	Mutton Fish	Grouper	Jack	Schoolmaster
Frequency	4	6	5	3

She has finished the first row of a pictogram to show the results.

Complete the key and pictogram.

	Key: Key: represents	fish
Mutton Fish	the second second	
Grouper		
Jack		
Schoolmaster		
		(4



(c)	500 000 peop gardens. In to On average, I	le record the types o tal, they record eigh how many birds doe	of birds in their ht million birds. es each person re	cord?		(2)
						(3)
(d)	Here is a list	of the birds at a bir	d table.			
	robin	robin	sparrow	blackbird	starling	
	blackbird	starling	blackbird	robin	blackbird	
	One bird flies arrives at the The new mod What type of arrives? Com	s away. Another bird bird table. de is robin. bird flies away and plete the table.	d I what type of bi	rd		
			Туре о	f bird		
		Flies away				
		Arrives				
						(2)

(Total for Question 1 is 14 marks)





(b)	The pictogram shows the amounts Isaac saves in the next four months.		
	Key: represents £20		
	September		
	October		
	November		
	December		
	Work out the range of the amount he saves in these four months. You must show your working.		
		£	(2)
(c) (i)	For the next 4 months he saves £50 each month.		
	How much has he saved in total?		
		£	(3)
(ii)	Isaac spends 50% of these total savings to pay for a holiday.		(-)
	How much does he pay for the holiday?		
		t	(2)
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3	Is money discrete continuous? Tick a	e or 1 box.		
	Discre	ete	Continuous	
	Give a reason for yo	our answer.		
				(1)
	Peter sells revision g	guides on a		
	website. The sales in	n May are		
	shown.		7	
	Sales (£)	Frequency	-	
	8	10	-	
	10	18	-	
	12	7	-	
	15	4	-	
	20	1		
(a)	Calculate his mean	price.		
				£
				(3)
(b)	Peter says that his m	nodal price and his	median price	
	are both £10. Is he c			
	Give reasons and we	orking to show how	you decide.	
				(2)





Difference	
	(2)

(Total for Question 3 is 10 marks)



4	Kelsi rolled a dice 1	0 time	es.										
	Here are her scores	•											
	(a) Find the mode.	1	5	6	4	4	2	2	3	4	3		
	(b) Work out the m	ean.										 (1)	
	(c) Work out the ra	inge.										 (2)	
									_			 (2)	
					(Tota	l for (luestic	on 4 1s	5 mai	rks)			
L	ots more papers at w	ww.bl	and.in									日初 下立 告予	

5	Here is a list of the fruit 25 people liked best.													
	cherries	strawberries	cherries	rasberries ras	berries strawber	rries plums								
	rasberries cherries rasberries cherries		strawberries	plums	rasberries	rasberries								
			cherries	plums	strawberries	strawberries								
	plums	rasberries	strawberries	strawberries	plums	strawberries								

(a) Complete the table for the information in the list.

Fruit	Tally	Frequency
cherries		
plums		
rasberries		
strawberries		

(2)

(b) Draw a suitable diagram to show this information in the table. Use the grid below.

(3)

(Total for Question 5 is 5 marks)



6

	Male	Female
First year	397	608
Second year	250	210

The table gives information about the numbers of students in the two years of a college course.

Hanna wants to interview some of these students.

She takes a random sample of 50 students stratified by year and by gender.

Work out the number of students in the sample who are male and in the first year.

•••••

(Total for Question 6 is 3 marks)

7 Tara carried out a survey of the number of school dinners 34 students had in one week.

The table shows this information.

Number of school dinners	Frequency	
0	0	
1	8	
2	12	
3	7	
4	5	
5	2	

Calculate the mean.

.....

(Total for Question 7 is 3 marks)



8 Sophie asked 32 women about the number of children they each had.

The table shows information about her results.

Number of children	Frequency	
0	9	
1	6	
2	7	
3	8	
4	2	
more than 4	0	

(a) Find the mode.

(b) Calculate the mean.

.....

.....

(3)

(1)

(Total for Question 8 is 4 marks)





The table shows some information about the ages, in years, of 60 people.

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9

(Total for Question 9 is 4 marks)



10 60 students take a maths test.

The test is marked out of 50.

This table shows information about the students' marks.

Maths mark	0–10	11–20	21–30	31–40	41–50
Frequency	5	13	17	19	6

On the grid, draw a frequency polygon to show this information.



(Total for Question 10 is 2 marks)



Weight of box (w kg)	Frequency
$0 < w \leqslant 4$	11
$4 < w \leqslant 8$	16
$8 < w \leqslant 12$	29
$12 < w \leq 16$	26
$16 < w \leq 20$	20



Draw a frequency polygon to show this information.





Time (<i>t</i> minutes)	Frequency
$0 < t \leqslant 10$	4
$10 < t \leq 20$	8
$20 < t \leqslant 30$	14
$30 < t \leqslant 40$	16
$40 < t \leqslant 50$	6
$50 < t \leqslant 60$	2

12 The frequency table gives information about the times it took some children to get to school one day.

(a) Draw a frequency polygon for this information.





"There are more boys than girls in Year 11 in Cranford Academy."

(b) Is Sheila correct?

You must give a reason for your answer.

(2)

The pie chart gives information about the 76 students in the same four Year 11 classes at Cranford Academy.

Number of students in Year 11 of Cranford Academy

Ron says,

"It is more difficult to find out the numbers of students in each class from the pie chart than from the bar chart."

(c) Is Ron correct? You must give a reason for your answer.

(1)

(Total for Question 13 is 5 marks)

Foot length (f cm)	Number of adults
$16 \leqslant f < 18$	3
$18 \leqslant f < 20$	6
$20 \leqslant f < 22$	10
$22 \leqslant f < 24$	12
$24 \leqslant f < 26$	9

14 The table shows some information about the foot lengths of 40 adults.

- (a) Write down the modal class interval.
- (b) Calculate an estimate for the mean foot length.

..... cm

(1)

(3)

(Total for Question 14 is 4 marks)

16 Here is a list of all the coins in Tara's purse.

£1	5p	20p	1p
20p	1p	10p	£1
20p	10p	£1	20p
10p	20p	20p	5p

Complete the table for this information.

Coin	Tally	Frequency
£1		
50p		
20p		
10p		
5p		
2p		
1p		

(Total for Question 16 is 2 marks)

17 Here are the test marks for the students in Mrs Illidge's maths class.

28	36	25	43	18	39	30
36	27	31	33	14	22	36
23	12	38	36	40	45	27

(a) Complete the frequency table for these marks.

Mark	Tally	Frequency
10 - 19		
20-29		
30 - 39		
40 - 49		

(3)

(b) Work out the number of these students getting less than 20 marks.

(1)

(Total for Question 17 is 4 marks)

18 The table shows information about the marks of 30 students in a test.

Mark	Frequency
14	2
15	10
16	2
17	3
18	13
	Total = 30

Students who scored less than the mean mark have to retake the test.

How many students have to retake the test?

You **must** show your working.

Answer

(Total for Question 17 is 3 marks)

The pictogram shows how some passengers spent most of their time on a flight. 19 Reading Watching films Listening to music Playing games Other represents 40 people Key: (a) How many passengers spent most of their time playing games? (a) (1) (b) How many more passengers spent most of their time watching films than reading? (b) (1) (c) There were 360 passengers on the plane. Complete the pictogram for listening to music. (3) (Total for Question19 is 5 marks)

	Beach		
	Walking		
	Cruising		
	Adventure		
	Sightseeing		
	Other		
	Key : rep	presents 4 people.	
(a) How ma	ny people answere	ed Beach?	
(") 110 // 114			
		(a)	(1)
(b) 10 people answered Sightseeing.			
Show this on the pictogram.			
(c) How ma	ny more people an	nswered Cruising than Other?	
		(c)	(1)
(d) How many people were asked altogether?			
		(d)	
		(4)	

21 Terry works in a cafe.

At noon one day he records the number of customers sitting at each table in the cafe.

Here are his results.

Number of customers sitting at a table	Number of tables
0	4
1	5
2	10
3	7
4	3
5	1

(a) Work out the total number of tables in the cafe.

(1)

(2)

(2)

(b) Work out the total number of customers sitting at tables in the cafe.

(c) Work out the mean number of customers sitting at a table.

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(Total for Question 21 is 5 marks)