AQA

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

GCSE MATHEMATICS

F

Foundation Tier Unit 1 Statistics and Number

Wednesday 2 November 2016 Morning Time allowed: 1 hour

Materials

For this paper you must have:
- a calculator
- mathematical instruments.

Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 54.
- The quality of your written communication is specifically assessed in Questions 1 and 10. These questions are indicated with an asterisk (*).
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

Advice
- In all calculations, show clearly how you work out your answer.

Answer **all** questions in the spaces provided.

1 Jon sells clothes.
Sales are by phone or online.

Phone sales

Shorts	£450
Jackets	£800
Hoodies	£500
T-shirts	£250

1 (a) Complete the pictogram.
The first row has been done for you.

[2 marks]

Phone sales

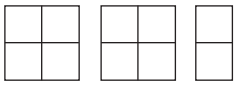
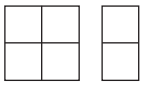
Key : ◯ represents £200

Shorts	◯ ◯ ◔
Jackets	
Hoodies	
T-shirts	

***1 (b)** This pictogram represents his online sales.

Online sales

Key:  represents £1000

Shorts	
Jackets	
Hoodies	
T-shirts	

His **phone** sales were £2000

Jon says,

"Three-quarters of my sales were online."

Is he correct?
You **must** show your working.

[3 marks]

5

2 A bag has 10 red, 5 blue, 3 yellow and 2 green balls.

A ball is taken at random.

2 (a) Circle the chance it is red.

[1 mark]

impossible unlikely evens likely certain

2 (b) Circle the chance it is yellow or green.

[1 mark]

impossible unlikely evens likely certain

3 Here is a list of vehicles passing a shop on Sunday.

car	car	van	lorry	car
car	van	lorry	car	lorry
lorry	car	car	van	lorry
car	car	van	lorry	car

3 (a) Complete the table for Sunday.

[3 marks]

Type of vehicle	Tally	Frequency
car		
van		
lorry		
		Total = 20

3 (b) On Monday,

there are **twice** as many lorries as on Sunday

$\frac{1}{3}$ of the vehicles are lorries

the other vehicles are cars.

Work out the number of **cars** on Monday.

[3 marks]

Answer _____

8

4 There are 4 aces in a pack of 52 cards.
A card is chosen at random.

4 (a) Work out the probability of choosing an ace.
Give your answer as a decimal.
Write down your full calculator display.

[1 mark]

Answer _____

4 (b) Give your answer to part (a) to 3 decimal places.

[1 mark]

Answer _____

4 (c) Work out the probability that the card is **not** an ace.

[1 mark]

Answer _____

5 Four numbers have

a total of 70

a mode of 10

a median of 15

Work out the four numbers.

[2 marks]

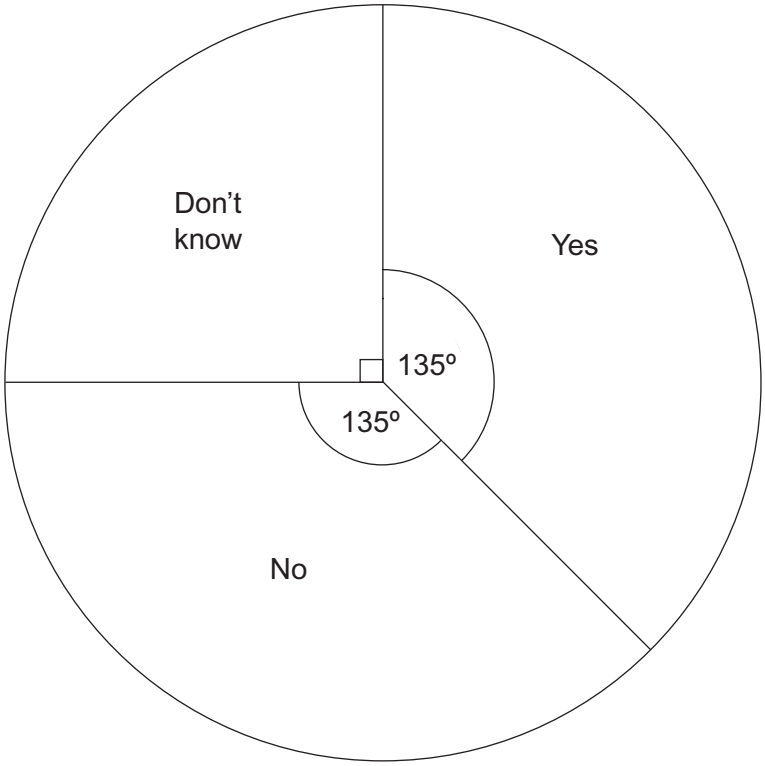
Answer _____ , _____ , _____ , _____

Turn over for the next question

5

6 Parents were asked if they like the length of school holidays.

Results for Leeds



6 (a) 1080 parents in Leeds replied.

Work out the number who said 'Don't know'.

[2 marks]

Answer _____

6 (b) 800 parents in Bradford replied.
250 of them said 'Yes'.

Which parents gave a higher proportion of 'Yes' replies, Leeds or Bradford?
You **must** show your working.

[3 marks]

Answer _____

Turn over for the next question

5

7 Here is some information about 32 hotels.

Number of lifts	Number of hotels
2	7
3	9
4	10
5	6
	Total = 32

Work out the **total** number of lifts in the 32 hotels.

[2 marks]

Answer _____

8 In a competition, Amy and Beth each get five marks.

Marks for Amy	7.8	7.3	4.2	8.1	7.1

Mean mark for Beth	7.2

Who has the higher mean mark?
You **must** show your working.

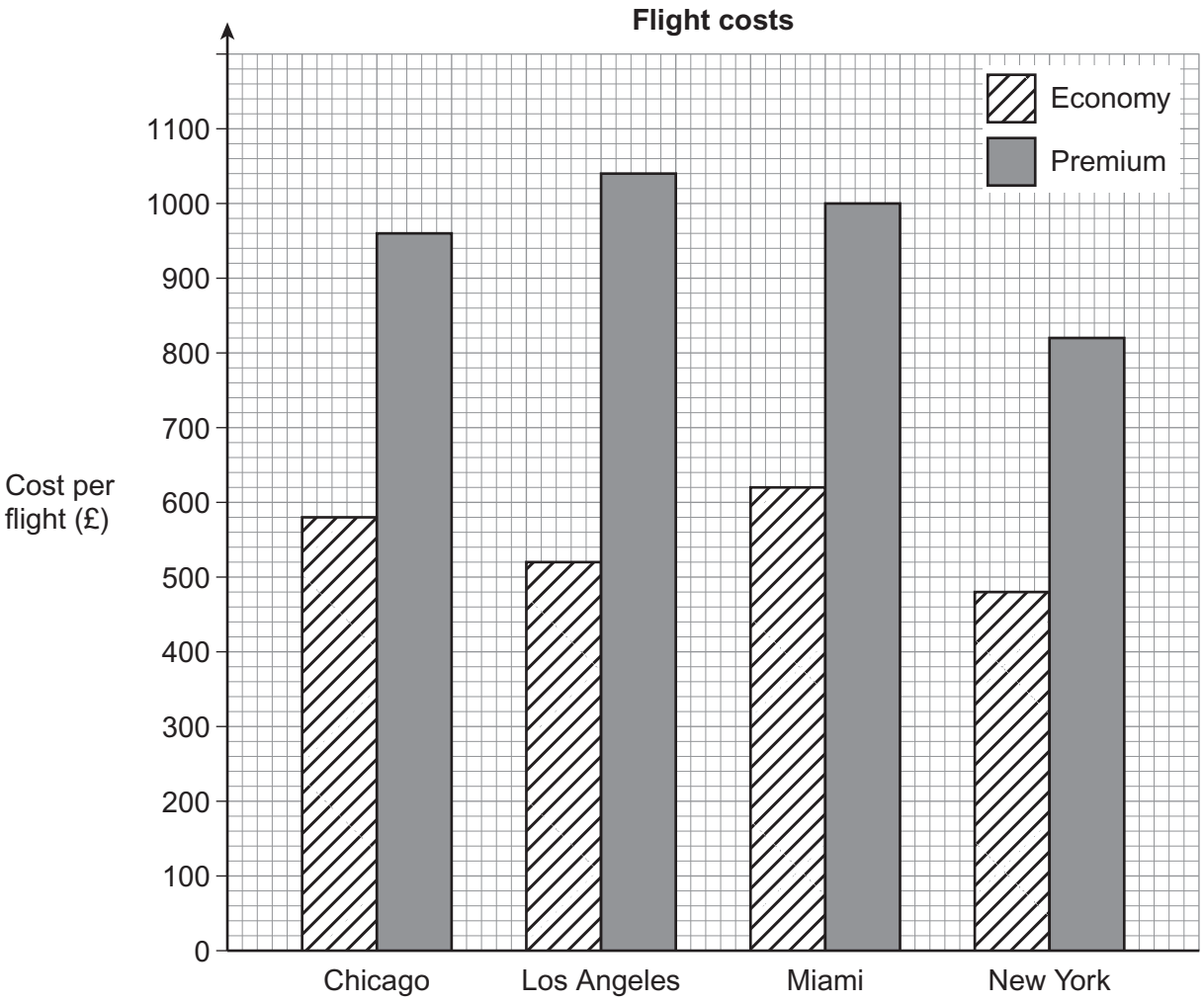
[3 marks]

Answer _____

Turn over for the next question

5

9 The bar chart shows the cost of flights to four cities.



9 (a) For flights to which city is the Premium cost double the Economy cost?
Circle your answer.

[1 mark]

Chicago Los Angeles Miami New York

9 (b) Work out the range of **all** the flight costs.

[2 marks]

Answer £ _____

9 (c) 75 people fly to Miami.
Some fly Economy and the others fly Premium.

The total cost of the **Economy** flights is £37 820

Use the bar chart to work out the total cost of the **Premium** flights.

.

[4 marks]

Answer £ _____

Turn over for the next question

7

10 On Thursday, the number of cars using 13 car parks is recorded.
Here are the results.

40	51	72	47	60
55	61	75	63	69
52	64	56		

***10 (a)** Show the data on an ordered stem-and-leaf diagram.
Remember to complete the key.

[4 marks]

Key: _____ | _____ represents _____ cars

10 (b) On Friday, the median number of cars using the car parks is 15% lower than Thursday.

Work out the median for Friday.

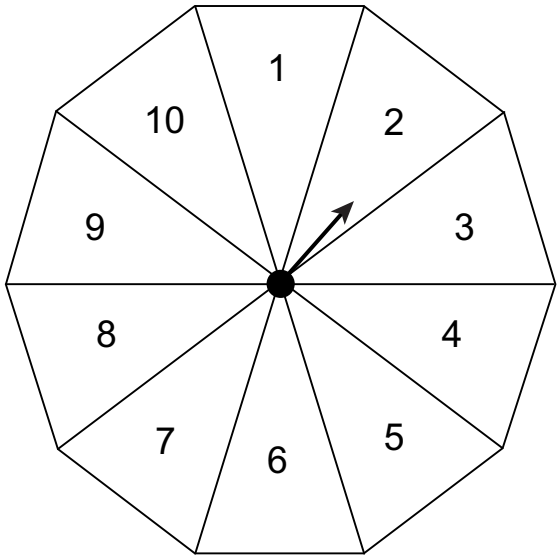
[3 marks]

Answer _____

Turn over for the next question

7

11 (a) A fair spinner has 10 equal sections.



Here are the results of eight spins.

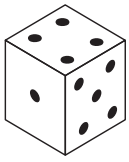
4 7 5 6 4 9 4 2

Circle the probability of the arrow landing on 4 on the next spin.

[1 mark]

$\frac{1}{10}$ $\frac{3}{8}$ $\frac{4}{10}$ $\frac{4}{9}$

11 (b) Describe how to test if a six-sided dice is fair.



[2 marks]

12 In a survey, 160 people chose A, B or C.

30 women and 26 men chose B.

Women chose A : B : C in the ratio 1 : 2 : 3

2 **more** people chose A than chose C.

Complete the table.

[5 marks]

	A	**B**	**C**	**Total**
Women		30		
Men		26		
Total				160

8

13 Each day Chen buys pasta or a sandwich.

Pasta	£3.20
Sandwich	£2.75

For 45 days, the relative frequency of Chen buying a sandwich was $\frac{1}{5}$

Altogether, how much did he pay?

[4 marks]

Answer £ _____

END OF QUESTIONS

4

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