Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
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16 – 17	
TOTAL	

General Certificate of Secondary Education
Foundation Tier
March 2013

Mathematics 43601F

Unit 1

Thursday 28 February 2013 1.30 pm to 2.30 pm

F

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

Time allowed
- 1 hour

Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- 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 8 and 11. 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 booklet.

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

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

1 The table shows road lengths in Scotland.

Type of road	Length (km)
Motorways	391
Trunk roads	2847
A roads	7421
B roads	7489
C roads	10 659
Unclassified roads	26 367

1 (a) Write down the length of the Unclassified roads.

Answer ..... km *(1 mark)*

1 (b) Write your answer to part (a) to the nearest 100 km.

Answer ..... km *(1 mark)*

1 (c) Work out the **total** length of the A roads, B roads and C roads.

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Answer ..... km *(2 marks)*

2 The favourite computer games for 60 students are shown in the table.

2 (a) Complete the table.

Game	Tally	Frequency
A	𝍸 𝍸 𝍸 |||	18
B	||||	
C		13
D	𝍸 𝍸 𝍸	15
E	𝍸 𝍸	
	Total	**60**

(2 marks)

2 (b) Which game did exactly one quarter of the students choose?

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Answer ..... *(2 marks)*

8

3 Some girls and boys voted for an extra lunchtime sport.

Key: ◯ represents 4 votes

Girls

Basketball	◯ ◔
Cricket	◯ ◑
Football	◯ ◯
Netball	◯ ◕

Boys

Basketball	◯ ◯ ◯
Cricket	◯
Football	◯ ◯ ◑
Netball	◗

3 (a) How many girls voted for football?

Answer ..... *(1 mark)*

3 (b) How many **more** girls than boys voted for cricket?

.....

.....

Answer ..... *(2 marks)*

3 (c) Which sport got the most votes altogether?
Circle your answer.

Basketball Cricket Football Netball

(1 mark)

4

Bowling Prices

Adult	£2.95
Child	£2.25
Family ticket (2 adults and 2 children)	£9.00

4 (a) 1 adult and 6 children went bowling.

How much did they pay altogether?

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Answer £ ..... *(2 marks)*

4 (b) 2 adults and 2 children went bowling.
They bought a family ticket.

How much money did they save?

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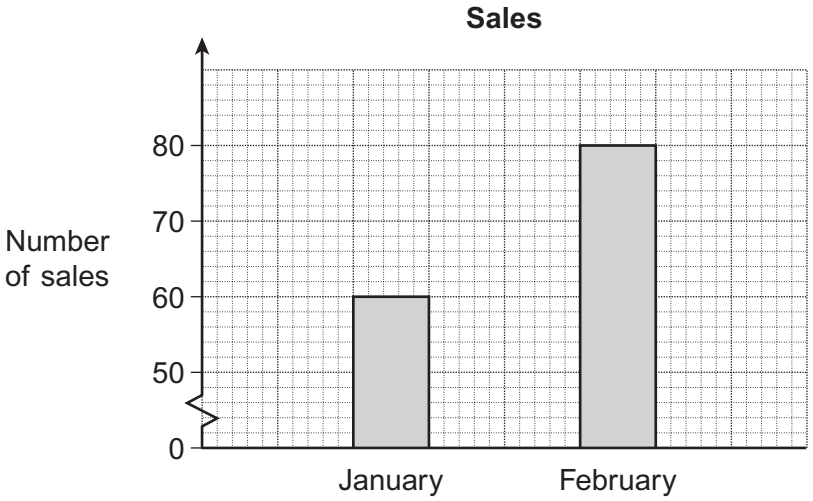
Answer £ ..... *(3 marks)*

9

5 A company recorded the number of sales each month.



Tracey says,

"The number of sales doubled from January to February."

Is she correct?
Show how you decide.

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(2 marks)

6 A cinema surveyed 250 customers.

6 (a) 125 were men.

What fraction were men?
Give your answer in its simplest form.

.....

Answer ..... *(2 marks)*

6 (b) 6% of these 250 customers paid for better seats.

How many of them paid for better seats?

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Answer ..... *(2 marks)*

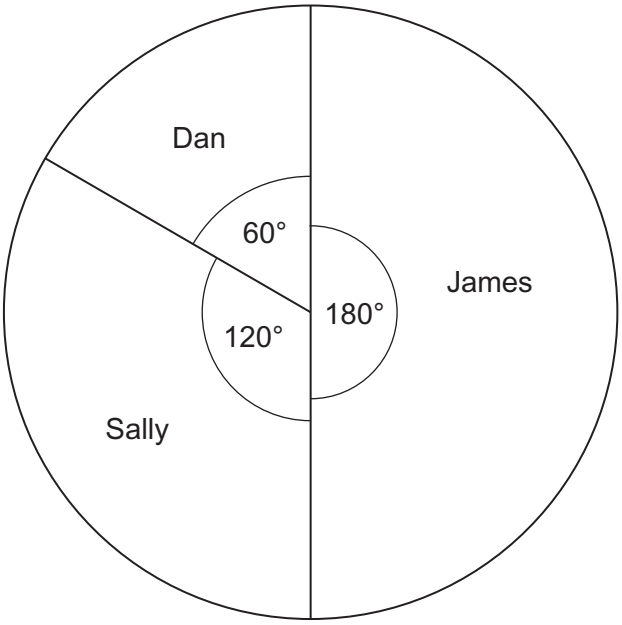
Turn over for the next question

6

7 Three singers took part in a TV contest.

3 000 000 people voted by telephone.

Telephone votes



7 (a) How many telephone votes did James get?

.....

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Answer ..... *(2 marks)*

7 (b) The table shows the Internet votes for each singer.

	Internet votes
James	800 000
Sally	1 450 000
Dan	150 000

The telephone votes and the Internet votes are added together for each singer.

Who got the most votes?
You **must** show your working.

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Answer ..... *(3 marks)*

Turn over for the next question

5

8 The points scored by 20 teams in a competition are shown.

25	33	36	23	35
24	50	37	26	46
48	35	51	28	39
30	48	33	44	25

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

Key: ..... | ..... represents ..... points

2	.....
3	.....
4	.....
5	.....

(3 marks)

8 (b) One-fifth of the teams leave the competition.
These are the teams with the fewest points.

What is the **lowest** score of the remaining teams?

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Answer ..... points *(2 marks)*

9 The mean of four numbers is 6.
The median is 7.
The mode is 8.

What are the four numbers?

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Answer .... *(3 marks)*

Turn over for the next question

8

10 Class A had a spelling test of ten words.
The table shows their marks.

Class A

Mark	Frequency	
5	4	
6	2	
7	8	
8	10	
9	6	

10 (a) How many students are in Class A?

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Answer ..... *(1 mark)*

10 (b) Write down the range of the marks.

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Answer ..... *(1 mark)*

10 (c) Show that the mean mark is 7.4

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(3 marks)

10 (d) Class B had the same test.

The range of marks for Class B is 6
The mean mark for Class B is 4.3

Compare the marks of Class A and Class B.

Comparison 1 .....

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Comparison 2 .....

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(2 marks)

Turn over for the next question

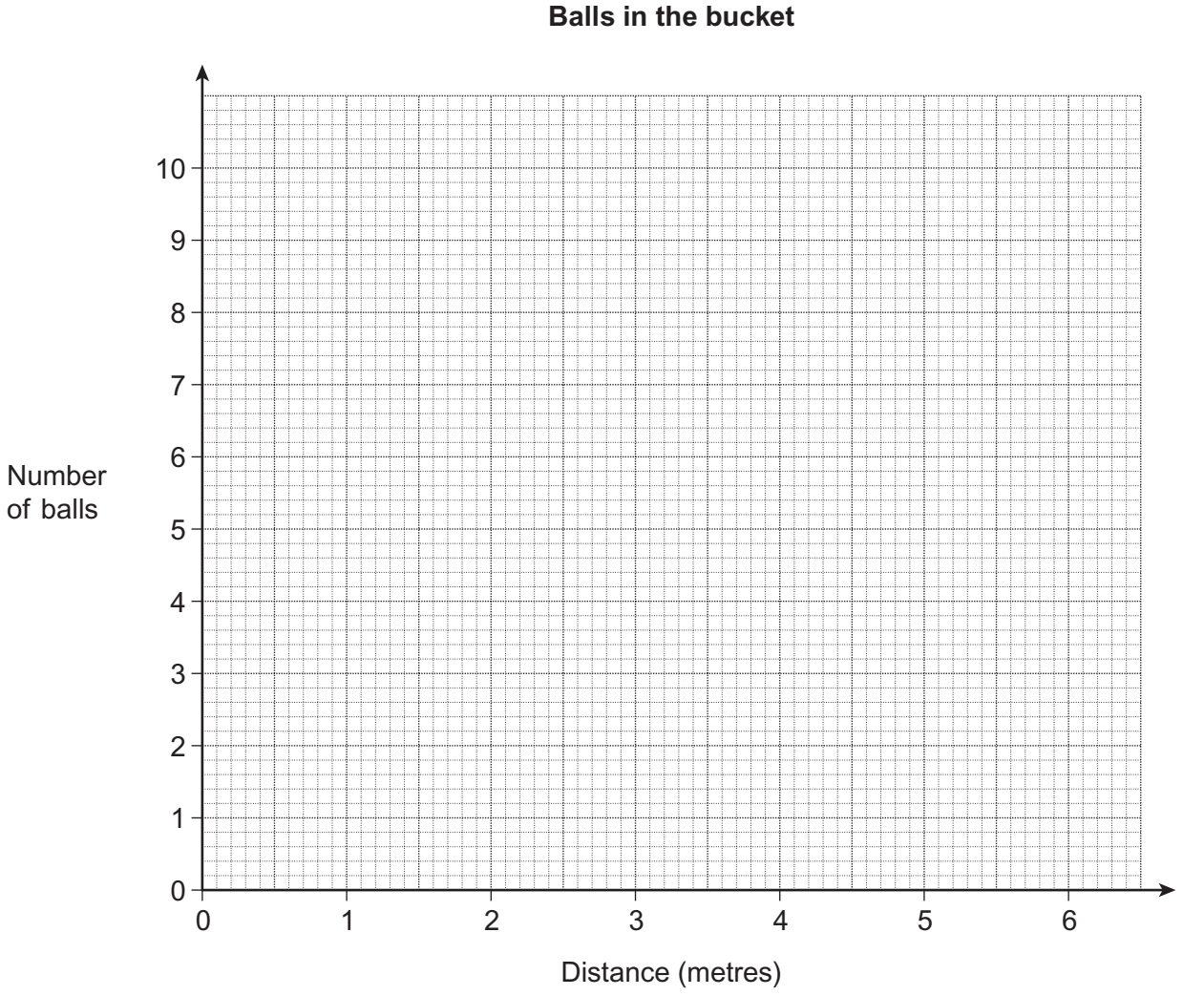
7

11 Matthew tried to throw balls into a bucket from different distances.
He threw 10 balls from each distance.

His results are shown in the table.

Distance (metres)	2.0	2.5	3.2	4.1	4.5	5.3	6.0
Number of balls in the bucket	9	7	8	6	2	4	1

11 (a) Plot these results as a scatter graph.



(2 marks)

11 (b) Draw a line of best fit on your scatter graph.

(1 mark)

***11 (c)** What type of correlation is shown?

Answer ..... *(1 mark)*

11 (d) Matthew is organising a game at the school fayre.

Each player will be given 10 attempts to throw a ball into a bucket.
He wants the average number in the bucket to be 5.

Use your line of best fit to decide how far the bucket should be from each player.

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Answer ..... metres *(2 marks)*

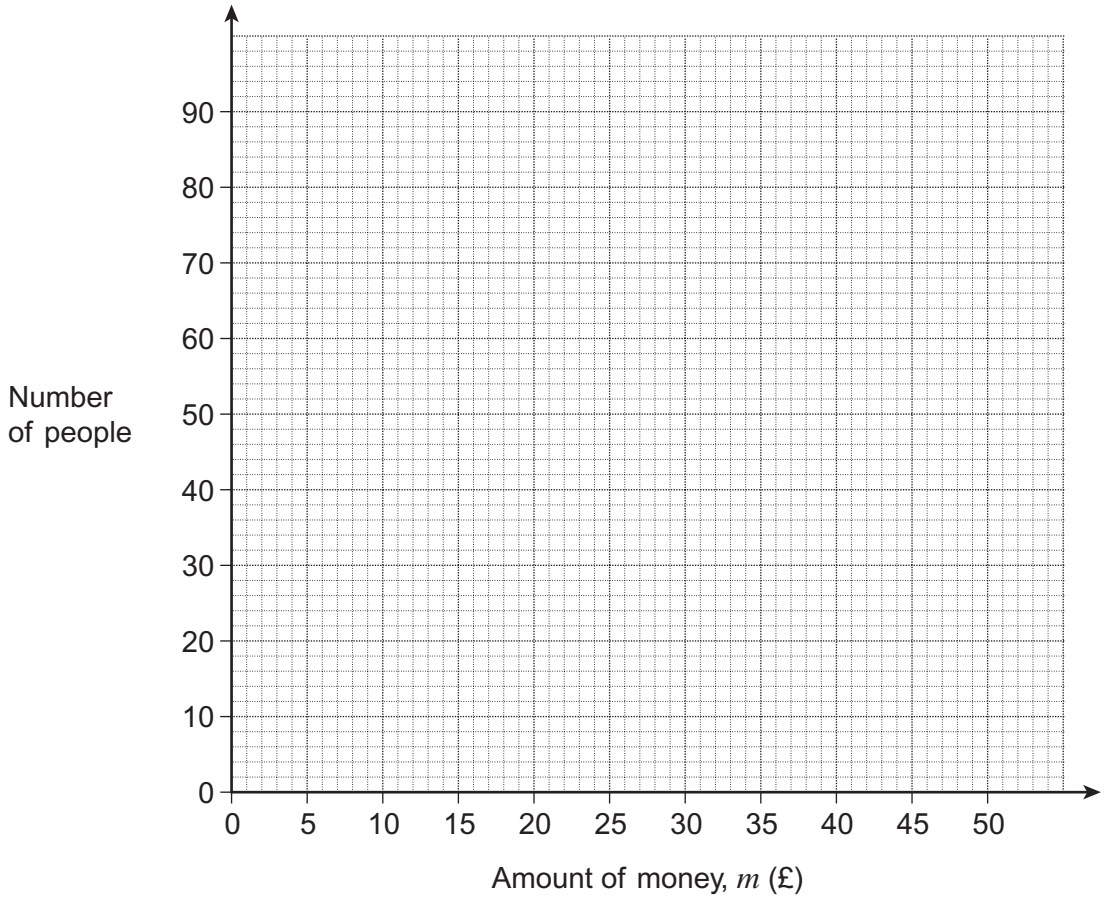
Turn over for the next question

6

12 The table shows information about the amount of money people spent at a market.

Amount of money, m (£)	Number of people
$0 < m \leqslant 10$	40
$10 < m \leqslant 20$	70
$20 < m \leqslant 30$	86
$30 < m \leqslant 40$	78
$40 < m \leqslant 50$	54

Draw a frequency polygon to show this information.



(2 marks)

13 A bag contains only red counters and blue counters.
There are 6 **more** red than blue.

A counter is chosen at random from the bag.

The probability it is blue is $\frac{1}{4}$

How many **red** counters are in the bag?

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Answer ..... *(3 marks)*

END OF QUESTIONS

5

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