Centre Number						Candidate Number				
Surname										
Other Names										
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For Examiner's Use	
Examiner's Initials	
Pages	Mark
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TOTAL	

General Certificate of Secondary Education
Foundation Tier
November 2012

Mathematics 43601F

Unit 1

Tuesday 6 November 2012 9.00 am to 10.00 am

F

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

Time allowed
- 1 hour

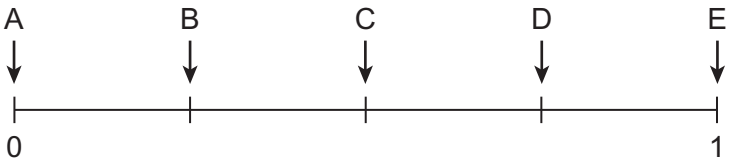
Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this 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 3, 7 and 8. 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 Here is a probability scale.



Write the letter of the arrow that matches each probability word.
The first one has been done for you.

unlikely	B
certain	.....
likely	.....
impossible	.....

(2 marks)

2 Naz has these coins.

£1 50p 20p

He buys a tin of beans for 18p.
He pays with **one** coin.
He is given **three** coins in change.

Complete the sentences.

The coin he pays with is .....

The coins given in change are ..... , ... and .....

(2 marks)

*3 Some girls and boys take part in a fitness competition.

3 (a) Here is a list of the awards for the girls.

gold	bronze	silver	silver	gold
bronze	silver	gold	bronze	silver
silver	silver	silver	gold	gold
gold	silver	gold	bronze	silver

Complete the table.

Girls

Award	Tally	Frequency
gold		
silver		
bronze		

(3 marks)

3 (b) The boys win 10 awards in total.

Half of all the awards for girls **and** boys are silver.

Work out the number of silver awards for boys.

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.....

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

10

Turn over ▶

4 (a) A shop sells posters for £3.99 each.

How many posters can Jo buy with a £20 note?

.....

.....

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

4 (b) The pictogram shows information about the posters sold.

Key: ◯ represents 10 posters

Sport	◯ ◯ ◯ ◯
Music	◯ ◯ ◯ ◗
Film	◯ ◯

4 (b) (i) What type of poster is the mode?

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

4 (b) (ii) How many more music posters than film posters were sold?

.....

.....

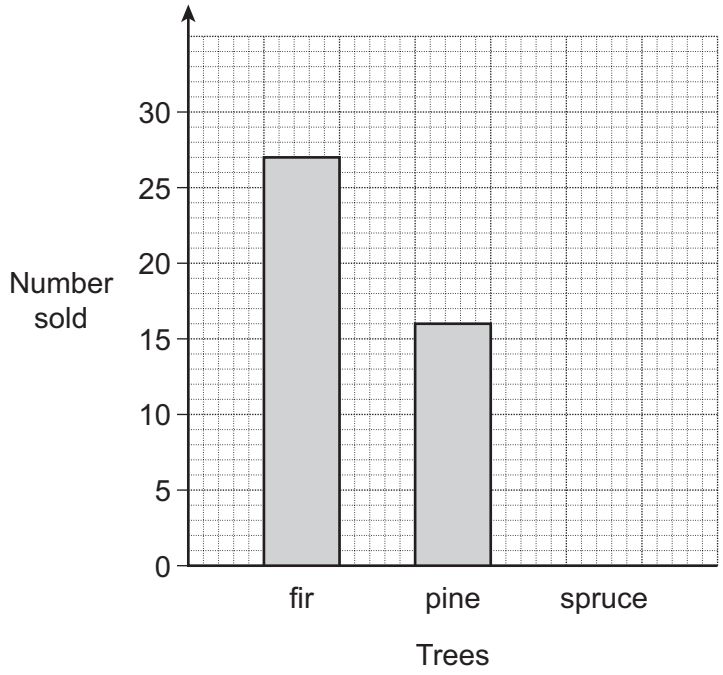
Answer ..... *(2 marks)*

5 Adam and Ben sell Christmas trees.

Adam only sells fir trees.
Ben only sells pine trees and spruce trees.

Adam sells two more trees than Ben.

5 (a) Draw the bar for spruce trees sold on the bar chart.



(3 marks)

5 (b) It costs Adam £2.50 to grow a fir tree.
He sells them for £10 each.

How much profit does he make selling **all** his fir trees?

.....

.....

.....

.....

Answer £ ..... *(3 marks)*

11

Turn over ▶

6 Seema takes this typing test.

> Type for one minute.
> Count the number of words typed correctly.
> Repeat ten times.

These are her results.

67 65 59 65 70 66 62 58 63 65

6 (a) Work out the range.

.....

Answer .....…..…..…..… words *(1 mark)*

6 (b) Work out the mean.

.....

.....

.....

Answer .....…..…..…..… words *(3 marks)*

6 (c) Jack also takes the typing test.

His range is 18 words.
His mean is 62 words.

Seema and Jack apply for the same job.

Use the results to decide who should get the job.
Tick a box.

Seema ☐ Jack ☐

Give a reason for your answer.

.....

.....

.....

.....

(2 marks)

Turn over for the next question

6

***7** The table shows where 600 people go on their first date.

Cinema	300
Food	150
Walk	100
Other	50
	Total = 600

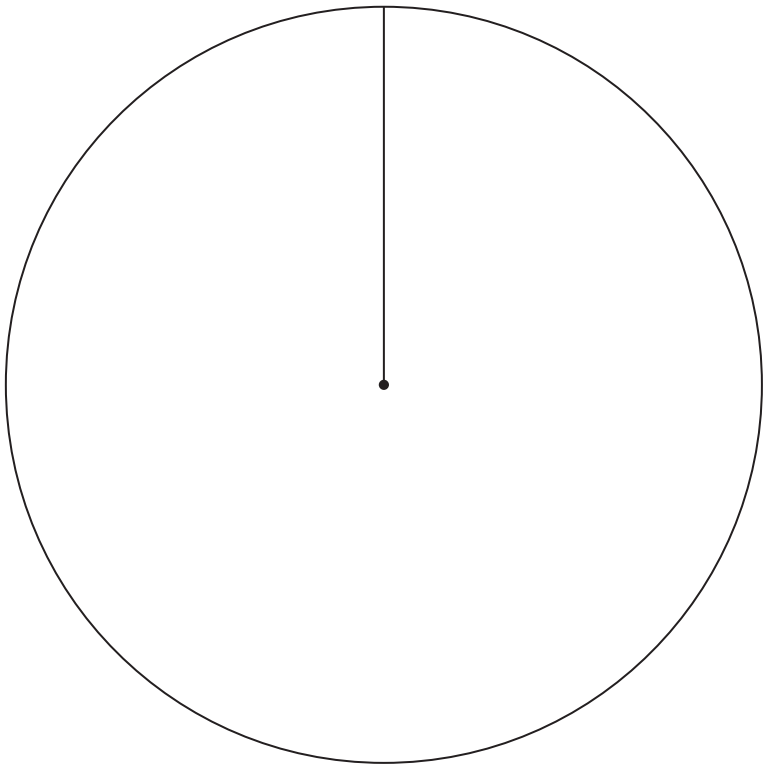
Draw a pie chart for the data.

.....

.....

.....

First date



(4 marks)

*8 Lee works at a leisure centre.

8 (a) He surveys a sample of 40 children.

	Can swim	Cannot swim	Total
Children	24	16	40

The council claims that more than $\frac{2}{3}$ of children in the area can swim.

Do Lee's results support this claim?
You **must** show your working.

.....

.....

.....

.....

(3 marks)

8 (b) He also wants to know the proportion of **all** adults who can swim.
He surveys a sample of 50 adults at the leisure centre.

State one way that Lee can make his sample more reliable.

.....

.....

(1 mark)

8

9 In a college canteen students can choose

a starter and a main course
or
a main course and a pudding.

Starter	Main Course	Pudding
Soup	Curry Burger Pasta	Jelly Fruit

9 (a) One combination is soup and curry.

How many different combinations are there?

.....

.....

.....

.....

Answer .....…..…..…..… *(2 marks)*

9 (b) All of the combinations are equally popular.

A student is chosen at random.

What is the probability that he has jelly?

.....

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

9 (c) The canteen serves 270 students one Monday.

How many jellies do they expect to serve?

.....

.....

.....

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

Turn over for the next question

5

10 A company receives and posts out orders from Monday to Friday.

At the start of the week shown, no orders were waiting to be posted out.

Day	Number of orders	
	received	**posted out**
Monday	84	53
Tuesday	72	74
Wednesday	51	79
Thursday	60	53
Friday	47	47

10 (a) How many orders have **not** been posted out by the end of Monday?

.....

Answer .....…..…..…..... *(1 mark)*

10 (b) Have all the orders been posted out by the end of the week?
You **must** show your working.

.....

.....

.....

.....
(2 marks)

10 (c) The company receives 1250 orders in December.
It has a January sale.
It receives 1430 orders in January.

Work out the percentage increase in orders.

.....

.....

.....

Answer .....…..…..…..…..… % *(3 marks)*

Turn over for the next question

6

11 The cars parked on a street are counted.
Here are the results for 13 days.

19	15	22	24	19	11	20
2	12	4	26	8	16	

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

Key: ……|…… represents …… cars

0 .....

1 .....

2 .....

(3 marks)

11 (b) On day 14, the cars parked are counted.
The range for **all** 14 days is 25.

How many cars were parked on day 14?
Give the **two** possible answers.

.....

.....

Answer .....…..... or ….....…..... *(2 marks)*

12 The sections of a fair spinner are red, white or blue.

12 (a) The spinner is spun 40 times.

Red	White	Blue	Total
28	9	3	40

Write down the relative frequency of the spinner landing on red.

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

12 (b) The spinner has 10 equal sections.

Work out the most likely number of sections for each colour.

Red	White	Blue	Total
			10

(2 marks)

END OF QUESTIONS

8

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED