

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



General Certificate of Secondary Education  
Foundation Tier  
November 2014

# Mathematics

43601F

## Unit 1

Monday 10 November 2014 9.00 am to 10.00 am

**F**

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>• a calculator</li> <li>• mathematical instruments.</li> </ul>	
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### 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 2, 3 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.

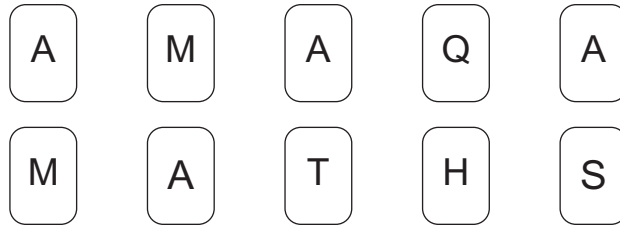
### Advice

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



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

**1** Ten cards have letters written on them.



One card is chosen at random.

**1 (a)** Circle the chance of choosing Q.

[1 mark]

impossible      unlikely      evens      likely      certain

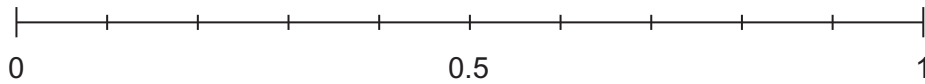
**1 (b)** Circle the chance of choosing B.

[1 mark]

impossible      unlikely      evens      likely      certain

**1 (c)** Draw a cross on the scale to show the probability of choosing A.

[1 mark]



**1 (d)** What is the probability of **not** choosing A?

[1 mark]

.....

Answer .....



2 Adam saved these amounts.

£124

£79.50

£122.50

£96

£85

2 (a) Work out the range.

[2 marks]

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Answer £ .....

\*2 (b) Matthew saved **half** as much as Adam.

Work out the **total** amount that Matthew saved.

[3 marks]

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Answer £ .....



- 3 A band played 20 concerts in five continents.

Continent	Tally	Frequency
Africa		
Asia		
Europe		
North America		
South America		
		<b>Total = 20</b>

- \*3 (a) Draw a fully labelled bar chart to show this information.

[4 marks]



- 3 (b)** What fraction of the 20 concerts were in South America?  
Give your answer in its simplest form.

[2 marks]

.....

Answer .....

- 4** 80 people were asked if they own a car.  
The table shows some of the information.

	Yes	No	Total
Women	18		35
Men	33	12	
Total			80

- 4 (a)** How many men said yes?

[1 mark]

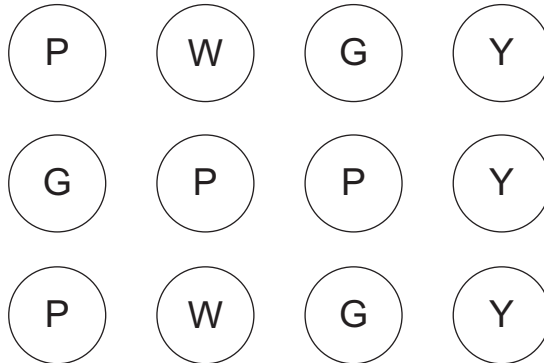
Answer .....

- 4 (b)** Complete the table.

[3 marks]



- 5 A bag has 12 counters.  
They are pink (P), white (W), green (G) or yellow (Y).



One counter is taken from the bag.  
A new counter is then added to the bag.

The mode is now yellow.

- 5 (a) What colour counter was taken out?  
Circle your answer.

[1 mark]

Pink                  White                  Green                  Yellow

- 5 (b) What colour counter was added?  
Circle your answer.

[1 mark]

Pink                  White                  Green                  Yellow



**6** A data logging machine counts people entering and leaving a museum.

Hour ending at	Entering	Leaving
8 am	30	6
9 am	21	25
10 am	75	70
11 am	40	38

**6 (a)** The museum opens at 7 am.

Show that there were 24 people in the museum at 8 am.

**[1 mark]**

.....

**6 (b)** How many people were in the museum at 11 am?

**[2 marks]**

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Answer .....



7 Emma worked for 12 weeks.  
The stem-and-leaf diagram shows the number of sales she made each week.

Key: 2 | 0 represents 20 sales



Each week she could earn a bonus of £15 or £50

Number of sales in a week	Bonus
Under 25	£0
25 – 30	£15
Over 30	£50

Calculate her total bonus for the 12 weeks.

**[2 marks]**

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Answer £ .....





\*8

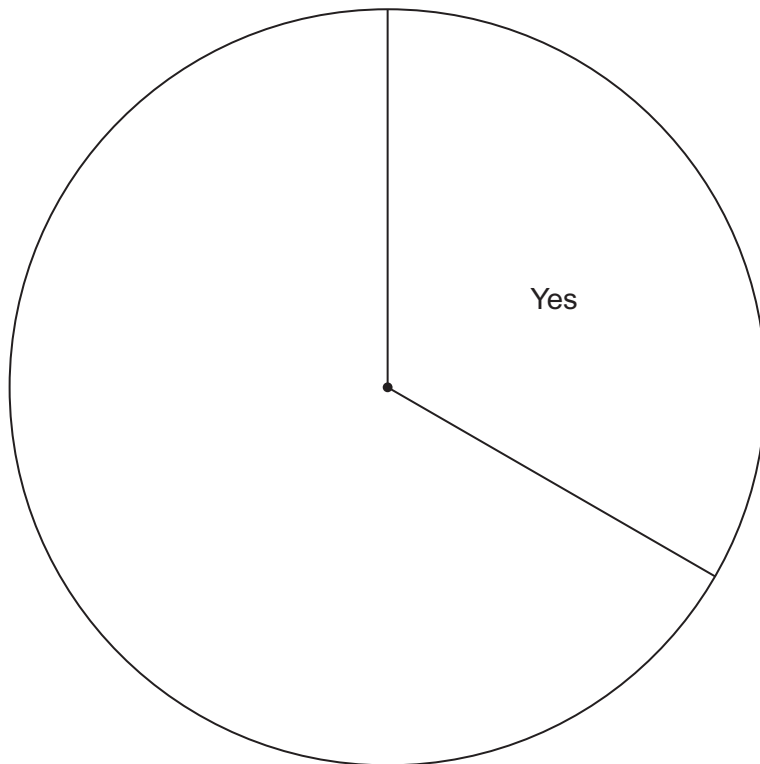
A reporter asked people if they agreed with a government policy.

$\frac{1}{3}$  said Yes

$\frac{2}{5}$  said No

The rest said Don't know

Survey results



Complete the pie chart.

[3 marks]

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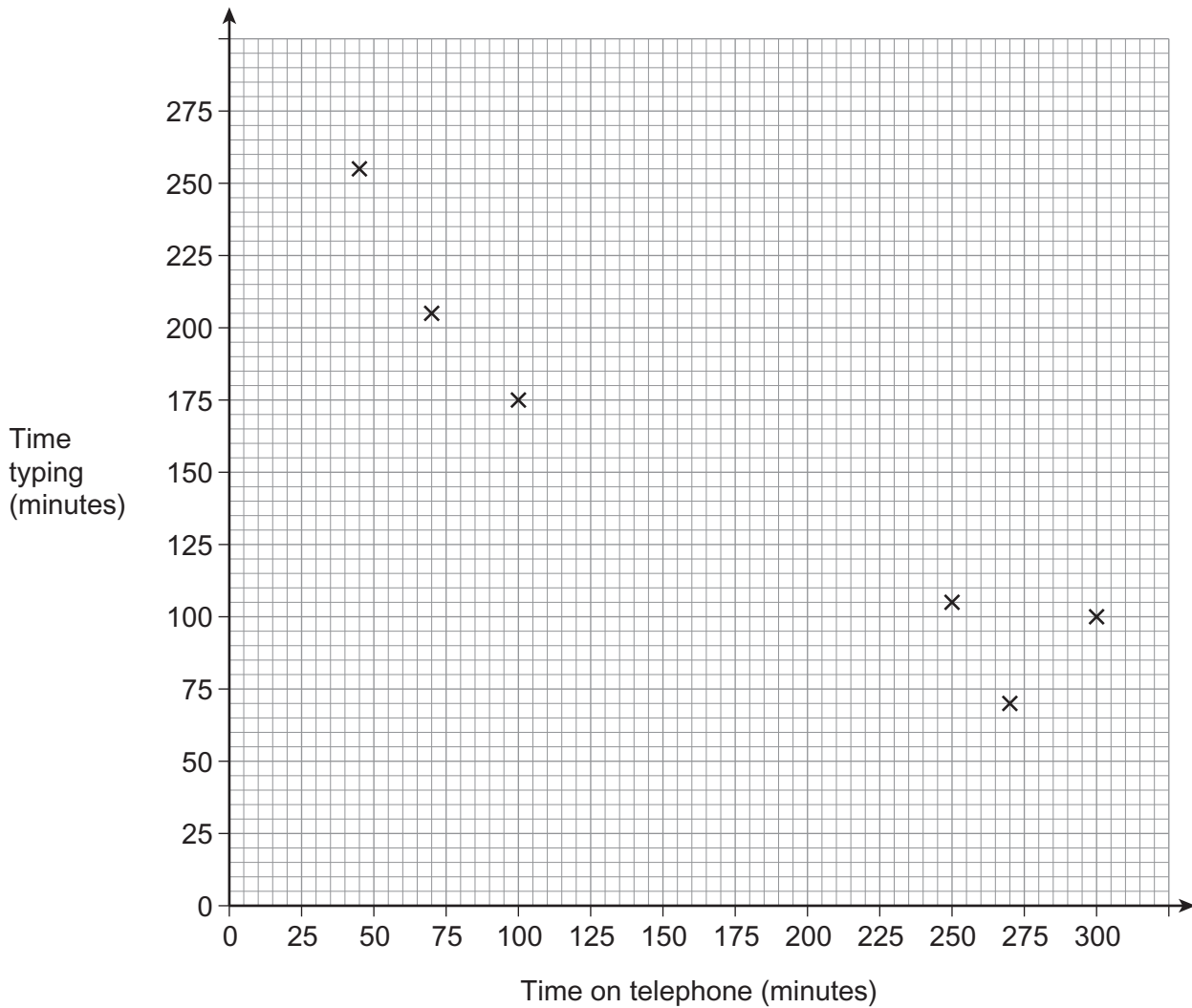
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Turn over ►



- 9 A secretary types letters and answers the telephone.  
The times spent on six days are shown on the scatter graph.



- 9 (a) The table shows the times spent on the next four days.

<b>Time on telephone (minutes)</b>	275	150	125	180
<b>Time typing (minutes)</b>	125	190	225	175

Show these times on the scatter graph.

**[2 marks]**



**9 (b)** Draw a line of best fit. **[1 mark]**

**9 (c)** On another day she spent 200 minutes on the telephone.  
Use your line of best fit to estimate the time she spent typing that day. **[1 mark]**

Answer ..... minutes

**Turn over for the next question**

4
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**Turn over ►**



10 Here is some information about tourism in 2012

Country visited	Number of tourists (millions)	Total spent by tourists (\$ millions)
France	83.0	53 600
USA	67.0	126 200
Spain	57.7	55 900

10 (a) How many **more** tourists visited France than Spain?

[2 marks]

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Answer ..... million

10 (b) 21% of the total spent by tourists in the USA was by Canadians.

Work out the amount spent by Canadian tourists in the USA.

[2 marks]

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Answer \$ ..... million



**10 (c)** In the UK the total spent by tourists was \$36 600 million.  
There were 29.3 million tourists.

Work out the average spent per tourist in the UK.  
Give your answer to the nearest \$10

**[3 marks]**

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Answer \$ .....

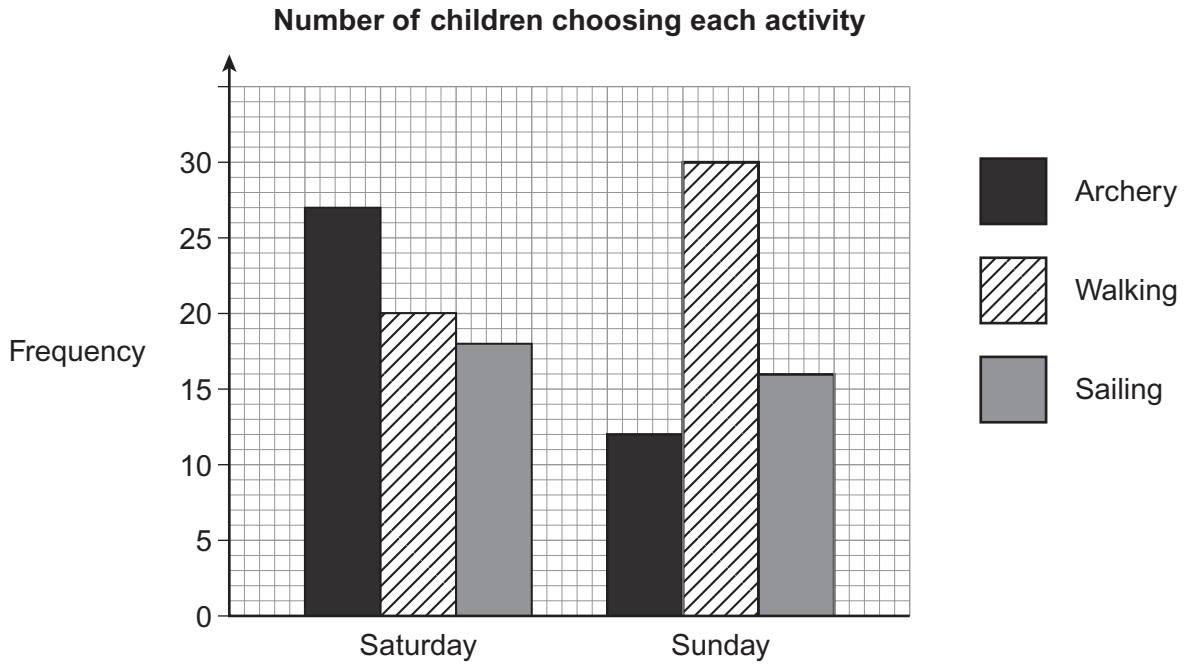
**Turn over for the next question**

7

**Turn over ►**



11 An outdoor centre has activities for children.



11 (a) Adults help with **walking** in the ratio

$$\text{number of adults} : \text{number of children} = 1 : 5$$

3 adults can help with walking on **Saturday**.

Is this enough?  
You **must** show your working.

**[2 marks]**

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11 (b) A group of people go **sailing** in the ratio

$$\text{number of adults} : \text{number of children} = 1 : 2$$

What fraction of the group are adults?

[1 mark]

.....

Answer .....

11 (c) On **Sunday** all the children do the activity they choose.

The ratios for each activity are shown in the table.

Activity	Number of adults : number of children
Archery	1 : 3
Walking	1 : 5
Sailing	1 : 2

Work out the total number of adults needed for Sunday.

[3 marks]

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Answer .....

6
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Turn over ►



12 In a game a team scores

2 points for a win  
1 point for a draw  
0 points for a loss.

A team plays four games.

There are six combinations of results that score **at least 5** points.

Complete the table to show these combinations.

[3 marks]

Number of wins	Number of draws	Number of losses	Total score
4	0	0	8
3	1	0	7





**13** Four numbers have a mean of 10  
The median is 8

Two of the numbers are 1 and 5

Work out the other two numbers.

**[3 marks]**

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Answer ..... and .....

**14** Jess wants to know the number of people who live in her street.  
She carries out a survey.

Which **two** words describe the data she collects?  
Circle your answers.

**[2 marks]**

Primary                  Secondary                  Discrete                  Continuous

**END OF QUESTIONS**



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