

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 2013

# Mathematics

43601F

## Unit 1

Wednesday 6 November 2013 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 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.



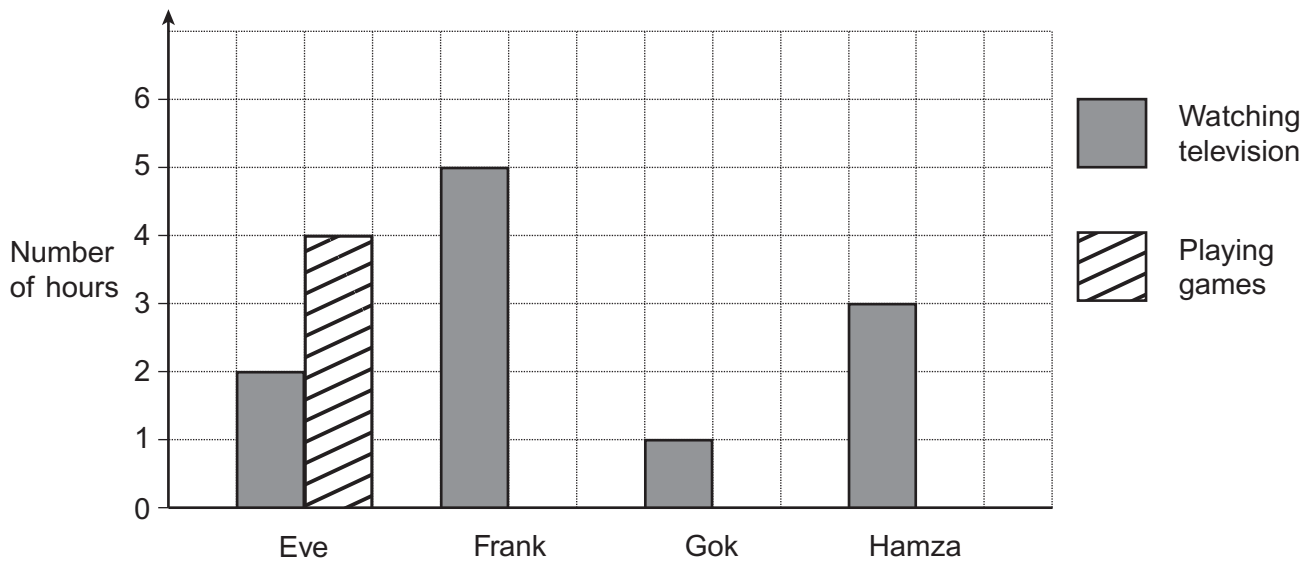
N 0 V 1 3 4 3 6 0 1 F 0 1

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

**1** Four children recorded the hours they spent watching television and playing games.

**1 (a)** Use the information in the table to complete the dual bar chart.

	Number of hours playing games
Eve	4
Frank	6
Gok	5
Hamza	1



(2 marks)

**1 (b)** Who watched television for 5 hours?

Answer ..... (1 mark)

**1 (c)** Who spent **more** time watching television than playing games?

Answer ..... (1 mark)



**2** Here are nine numbers.

23 25 23 31 20 25 21 24 25

**2 (a)** Work out the median.

.....

Answer ..... (2 marks)

**2 (b)** Write down the mode.

Answer ..... (1 mark)

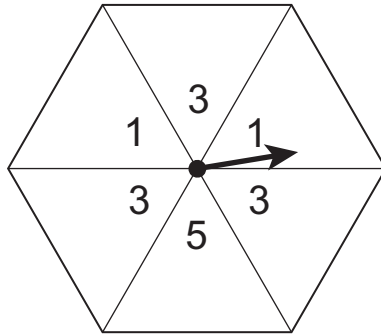
**Turn over for the next question**

7

**Turn over ►**



3 A fair spinner has six equal sections.



3 (a) Circle the chance of the arrow landing on an odd number.

impossible

unlikely

evens

likely

certain

(1 mark)

3 (b) Circle the chance of the arrow landing on 3.

impossible

unlikely

evens

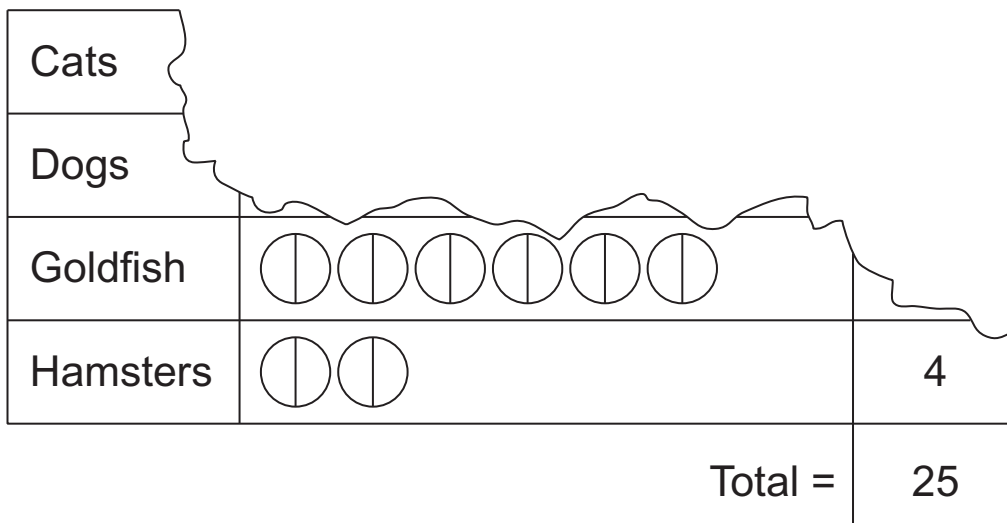
likely

certain

(1 mark)



4 Here is part of a pictogram about numbers of pets.  
The information about cats and dogs has been torn off.



Key:  represents 2 pets

The number of cats is **half** the number of dogs.

Work out the number of cats and the number of dogs.

.....

.....

.....

.....

Cats .....

Dogs ..... (4 marks)



5 Here is some information about a group of 20 children.

	Boys	Girls
Left-handed	4	1
Right-handed	7	8

5 (a) What fraction of the 20 children are right-handed?  
Write your fraction in its simplest form.

.....

.....

.....

Answer ..... (3 marks)

5 (b) A child is chosen at random from the group.

Work out the probability that the child is a girl.

.....

.....

.....

Answer ..... (2 marks)



**6** A lunchbox contains **one** sandwich and **one** drink from this list.

**Sandwiches**

**Drinks**

Cheese (C)

Blackcurrant (B)

Ham (H)

Lemonade (L)

Prawn (P)

Water (W)

**6 (a)** List **all** possible combinations.

One has been done for you.

CB

.....  
.....  
.....

(3 marks)

**6 (b)** One combination is chosen at random.

What is the probability that it is Ham and Water?

.....

Answer .....

(1 mark)

**Turn over for the next question**



**7** Chris recorded the number of runs he scored in five cricket matches.

21                      20                      29                      22                      24

**7 (a)** Calculate the mean.  
Give your answer to the nearest whole number.

.....  
.....  
.....

Answer ..... (4 marks)

**7 (b)** Calculate the range.

.....

Answer ..... (1 mark)





Tommy also recorded the number of runs he scored in the five matches.

**\*7 (c)** Tommy's mean was 30.

He says, "I scored more runs than Chris."

Use the data to comment on this statement.

.....  
.....  
.....

(1 mark)

**\*7 (d)** Tommy's range was 75.

**Chris** says, "I was more consistent than Tommy."

Use the data to comment on this statement.

.....  
.....  
.....

(1 mark)

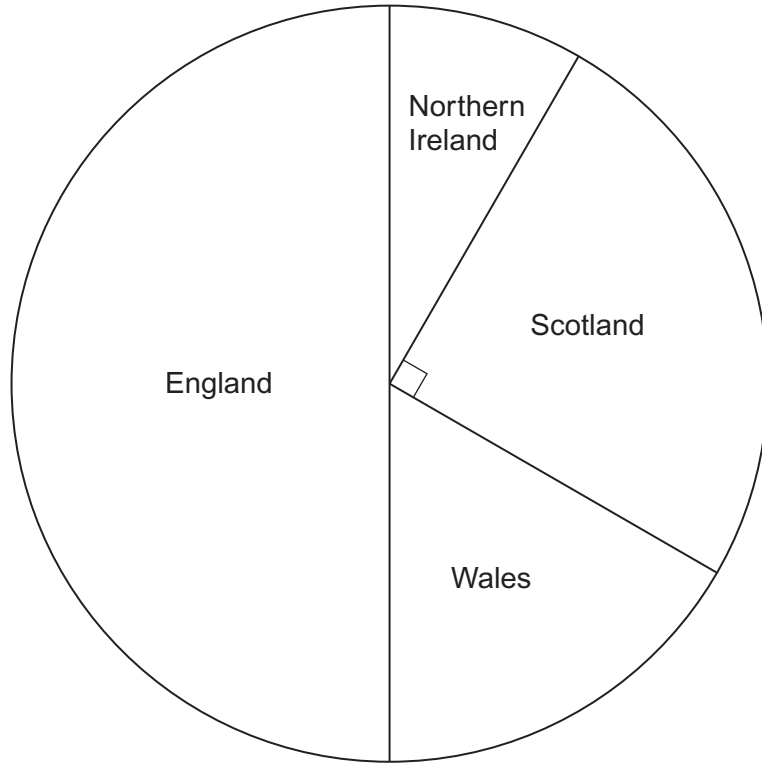
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7
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**Turn over ►**



8 The pie chart shows information about the number of magazines sold in four countries.



8 (a) What percentage of the total were sold in Scotland?

.....

.....

.....

Answer ..... % (2 marks)

\*8 (b) Make **one** comparison of the sales in England with the sales in the other countries.

.....

.....

(1 mark)



**8 (c)** 30 000 magazines were sold in Wales.

How many magazines were sold in total?

.....  
.....  
.....

Answer ..... (3 marks)

**9** Here is some information about 50 houses.

Number of bedrooms	Number of houses
1	6
2	10
3	22
4	9
5	3
Total = 50	

Work out the total number of bedrooms in the 50 houses.

.....  
.....  
.....  
.....  
.....  
.....

Answer ..... (3 marks)

9

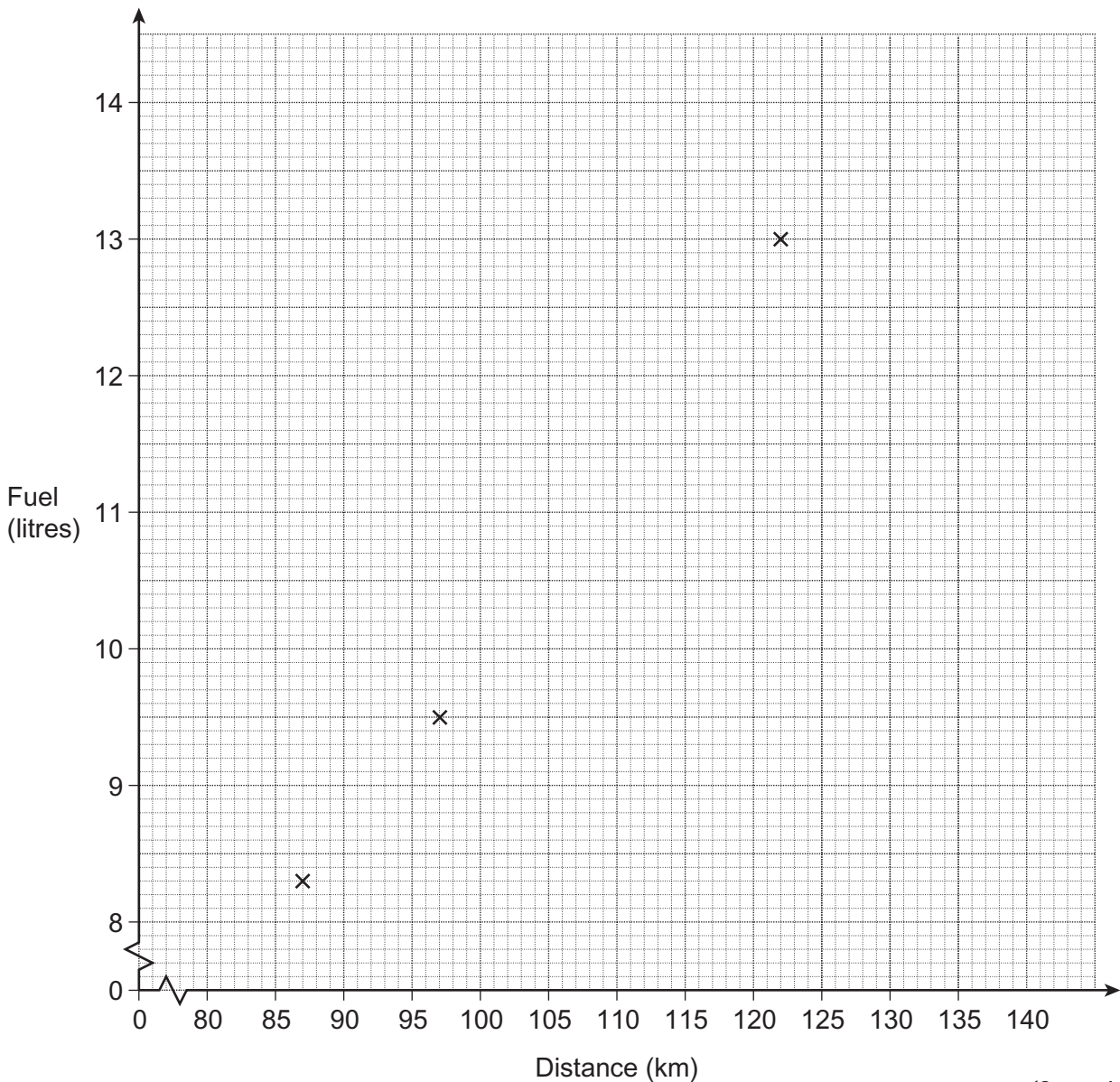
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10 Each day a taxi driver records the distance he travels. He also records the amount of fuel his car uses.

<b>Distance (km)</b>	87	122	97	90	105	100	135	116
<b>Fuel (litres)</b>	8.3	13.0	9.5	9.4	11.2	9.9	14.0	12.0

10 (a) Complete the scatter graph. The first three points have already been plotted.



(2 marks)



**10 (b)** Draw a line of best fit. (1 mark)

**10 (c)** Use your line of best fit to predict the fuel used to travel 110 km.  
.....

Answer ..... litres (1 mark)

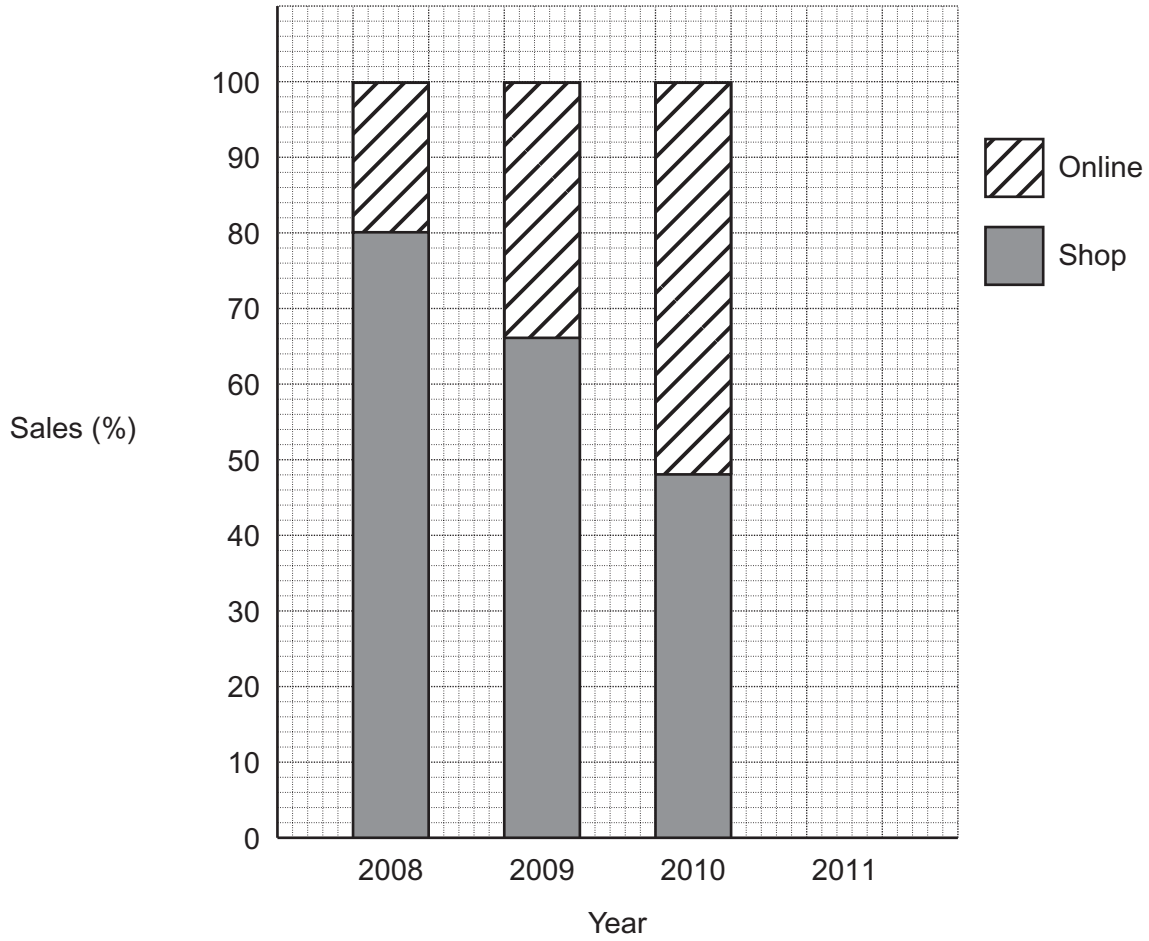
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**Turn over ►**



**11** A company sells items online and in a shop.  
This chart shows information about its sales.



**11 (a)** The table shows the sales for 2011.

	Sales (£ thousands)
<b>Online</b>	152
<b>Shop</b>	48
<b>Total</b>	200

Show the information for 2011 sales on the chart.

.....

.....

(3 marks)



- 11 (b)** Work out the ratio of online sales to shop sales for **2008**.  
Give your answer in its simplest form.

.....

Answer ..... : ..... (2 marks)

**Turn over for the next question**



12 The pay of 100 students with Saturday jobs was recorded.

Pay (£ $x$ )	Number of students
$0 < x \leq 10$	2
$10 < x \leq 20$	44
$20 < x \leq 30$	41
$30 < x \leq 40$	1
$40 < x \leq 50$	2
$50 < x \leq 60$	4
$60 < x \leq 100$	6
Total = 100	

12 (a) How many were paid more than £30?

.....

Answer ..... (1 mark)

12 (b) How many were paid £5 or less?  
Circle your answer.

0                      1                      2                      Cannot tell

(1 mark)

12 (c) Work out the class interval that contains the median.

Answer .....  $< x \leq$  ..... (1 mark)





**13** In a survey people had to choose A, B, C or D.  
The percentages for B, C and D are shown.

A	B	C	D
	25%	35%	30%

150 people chose B.

How many people chose A?

.....

.....

.....

.....

Answer ..... (4 marks)

**END OF QUESTIONS**



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