

Write your name here

Surname

Other Names

# Mathematics

**November 2017 Paper 2 (Calculator Allowed)**

**Part 1 (First half of the paper)**

**Edexcel Foundation Tier**

Time: 45 minutes

Q	Topic	Max Mark	My Marks
1	Fractions, Decimals and Percentages	1	
2	Multiples	1	
3	Simplifying Algebra	3	
4	Calculation Problems, Metric conversion	6	
5	Writing Fractions, Pie Charts	6	
6	Writing Ratio, Ratio to Fraction	2	
7	Prime Numbers	2	
8	Time Series, Misleading Graphs	2	
9	Scale Drawings, Bearings	3	
10	Area of a Triangle, Shapes	3	
11	Writing and Simplifying Ratio	3	
12	Frequency Trees, Writing Probability	5	
13	Calculation (Money) Problems, Rate of Pay	3	
	Total	40	

For worked solutions and video solutions visit [mathsgenie.co.uk](http://mathsgenie.co.uk)

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write  $\frac{7}{100}$  as a decimal.

.....  
(Total for Question 1 is 1 mark)

- 2 Write down a multiple of 6 that is between 40 and 50

.....  
(Total for Question 2 is 1 mark)

- 3 (a) Simplify  $3f \times 5g$

.....  
(1)

- (b) Simplify  $t \times t$

.....  
(1)

- (c) Simplify  $\frac{2n + 6n}{2}$

.....  
(1)

(Total for Question 3 is 3 marks)

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4 Ken buys some fruit.

He buys apples, bananas, peaches and oranges.  
Ken buys

4 apples	weighing 125 g each
2 bananas	weighing 170 g each
3 peaches	weighing 135 g each

Each orange has a weight of 90 g.

The fruit has a total weight of 1.785 kg.

(a) Work out how many oranges Ken buys.

.....  
(3)

Jane wants to buy 15 tomatoes.  
She asks for 1 kg of tomatoes at a shop.  
Jane assumes that each tomato has a weight of 75 g.

(b) (i) If Jane's assumption is correct, will she get 15 tomatoes?  
You must show how you get your answer.

(2)

(ii) If Jane's assumption is **not** correct, could she get 15 tomatoes?  
Justify your answer.

.....  
.....  
(1)

(Total for Question 4 is 6 marks)



5 60 students were asked how they get to school.

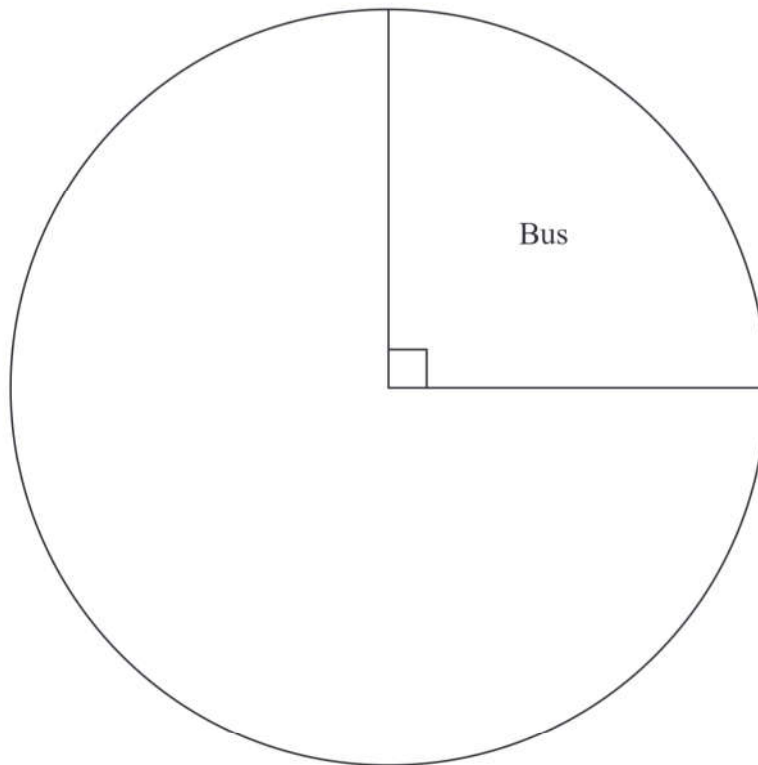
The table shows the results.

	Bus	Walk	Car	Bicycle
Number of students	15	27	12	6

(a) What fraction of the 60 students did **not** walk to school?

.....  
(2)

(b) Complete the pie chart for the information in the table.



(4)

(Total for Question 5 is 6 marks)



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6 Annie and Lily share some money in the ratio 4 : 3

(a) What fraction of the money does Lily get?

.....  
(1)

Rosie and Dan share some sweets.

Dan gets  $\frac{1}{4}$  of the sweets.

(b) Write down the ratio of the number of sweets Rosie gets to the number of sweets Dan gets.

.....  
(1)

**(Total for Question 6 is 2 marks)**

7 Steve says,

“There are more prime numbers between 20 and 30  
than there are between 10 and 20”

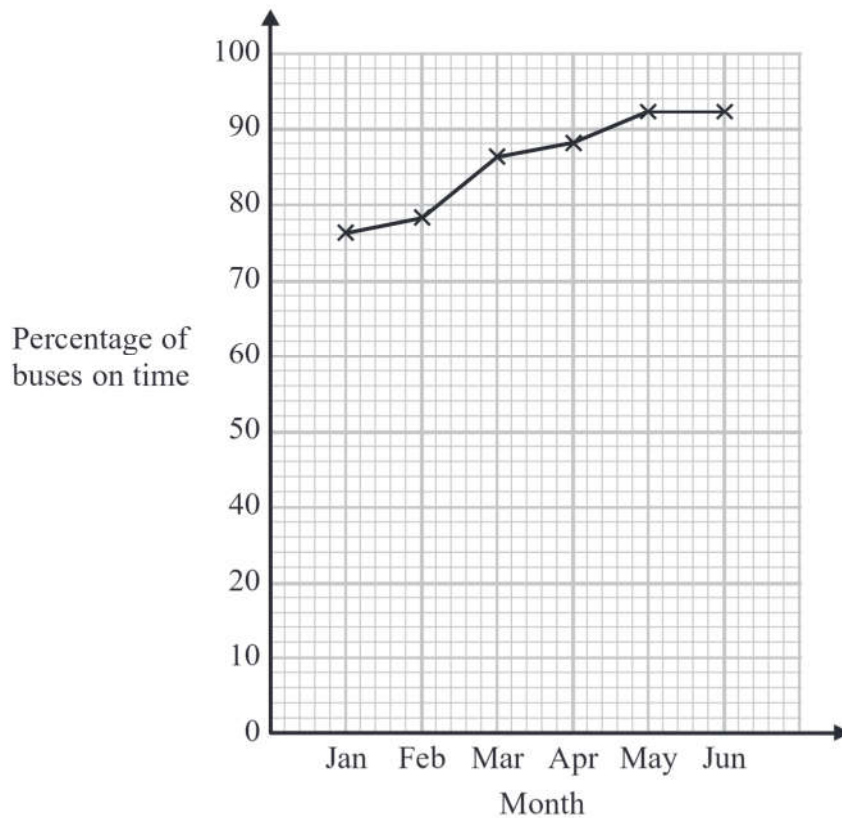
Is Steve right?

You must show how you get your answer.

**(Total for Question 7 is 2 marks)**



- 8 Chrissy drew this graph to show the percentage of buses that got to a bus stop on time for six months.



- (a) Write down **one** thing that is wrong with the graph.

(1)

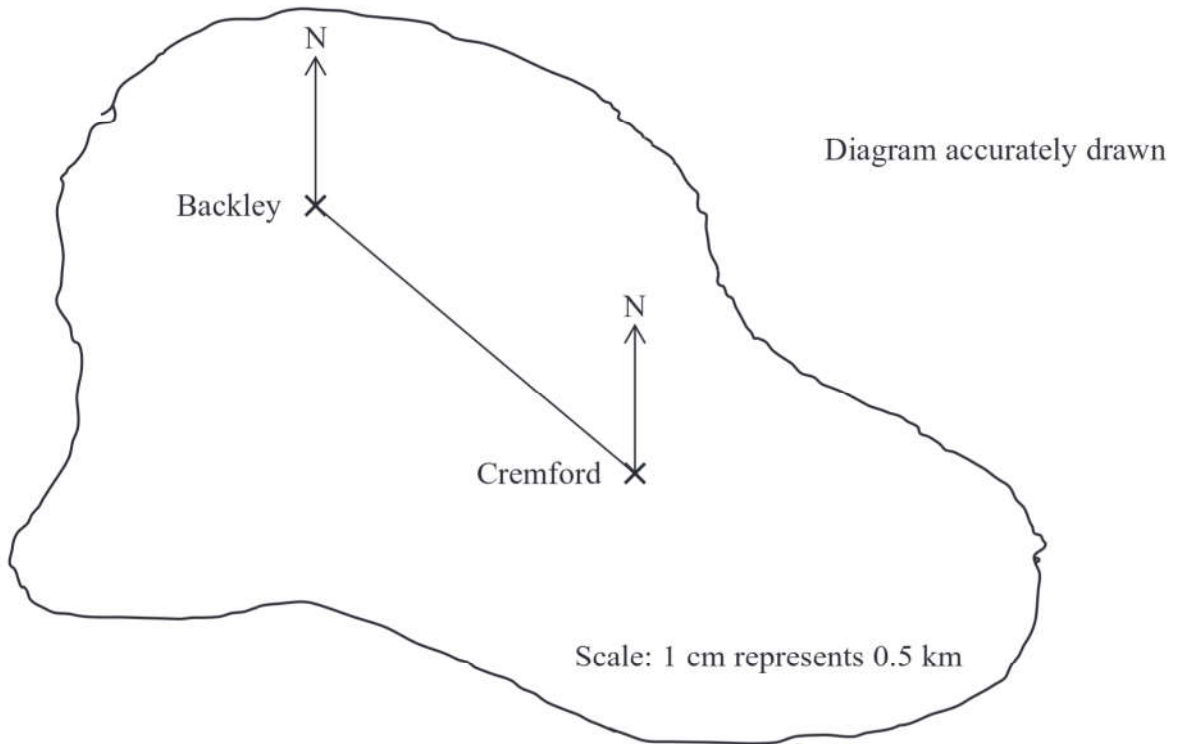
- (b) Describe the trend in the percentage of buses that got to the bus stop on time.

(1)

(Total for Question 8 is 2 marks)



9 Here is a map of an island.



A straight road joins the two villages, Backley and Cremford.

(a) Work out the real distance between the two villages.

..... km  
(2)

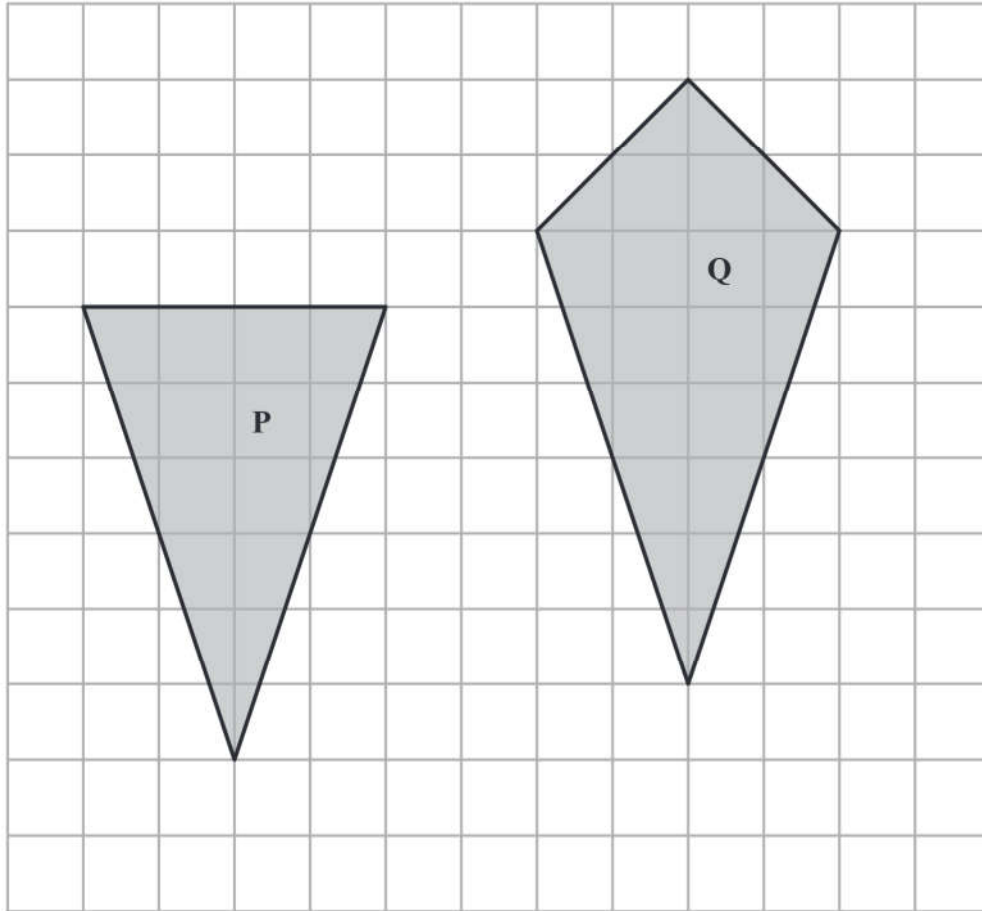
(b) Find the bearing of Cremford from Backley.

..... °  
(1)

(Total for Question 9 is 3 marks)



10 The diagram shows two shapes drawn on a centimetre grid.



(a) Find the area of shape **P**.

.....  
(2)

(b) Write down the mathematical name of quadrilateral **Q**.

.....  
(1)

(Total for Question 10 is 3 marks)





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11 The table shows a cricket club's income in 2016 from a fete, a quiz and membership fees.

	<b>Income</b>	
<b>Fete</b>	£250	
<b>Quiz</b>	Entry fees	13 at £5 each
	Refreshments	£35
<b>Membership fees</b>	25 at £20 each	

Express as a ratio

the income from the fete to the income from the quiz to the income from membership fees.

Give your ratio in its simplest form.

.....  
**(Total for Question 11 is 3 marks)**



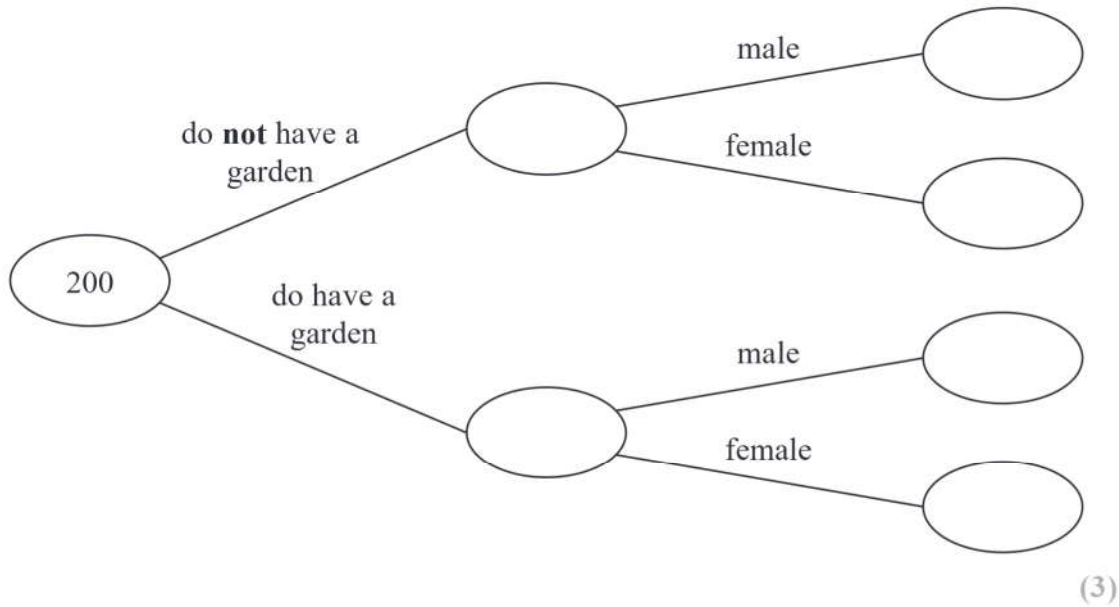
12 200 people live in a village.

23 people do **not** have a garden.

10 males do **not** have a garden.

95 people are male.

(a) Use this information to complete the frequency tree.



One of the people who does **not** have a garden is chosen at random.

(b) Write down the probability that this person is female.

.....  
(2)

(Total for Question 12 is 5 marks)



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**13** Ellie makes hats.  
She makes at least 17 hats per hour.  
She is paid 46p for each hat she makes.

Reaze is a waiter.  
He works 35 hours and is paid a total of £266

Show that Ellie's hourly rate of pay is more than Reaze's hourly rate of pay.

**(Total for Question 13 is 3 marks)**

