



GCSE Foundation 05

Number



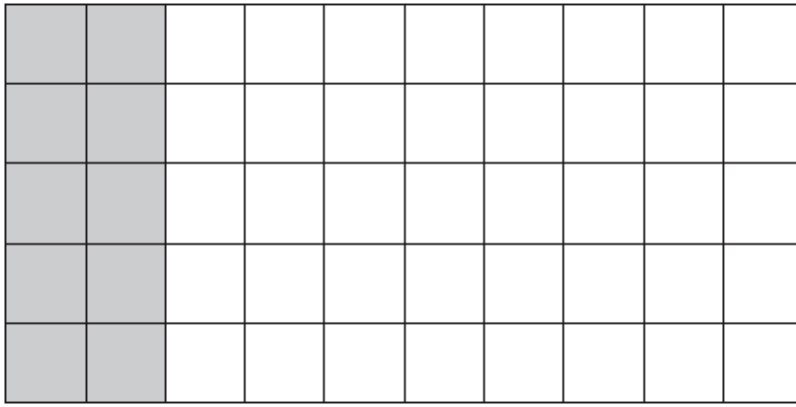
133 minutes



126 marks

Percentages

Q1.



- (a) What fraction of the grid is shaded?
Give your answer in its simplest form.

.....
.....

Answer

(2)

- (b) How many **more** squares need to be shaded so that 60% of the grid is shaded?

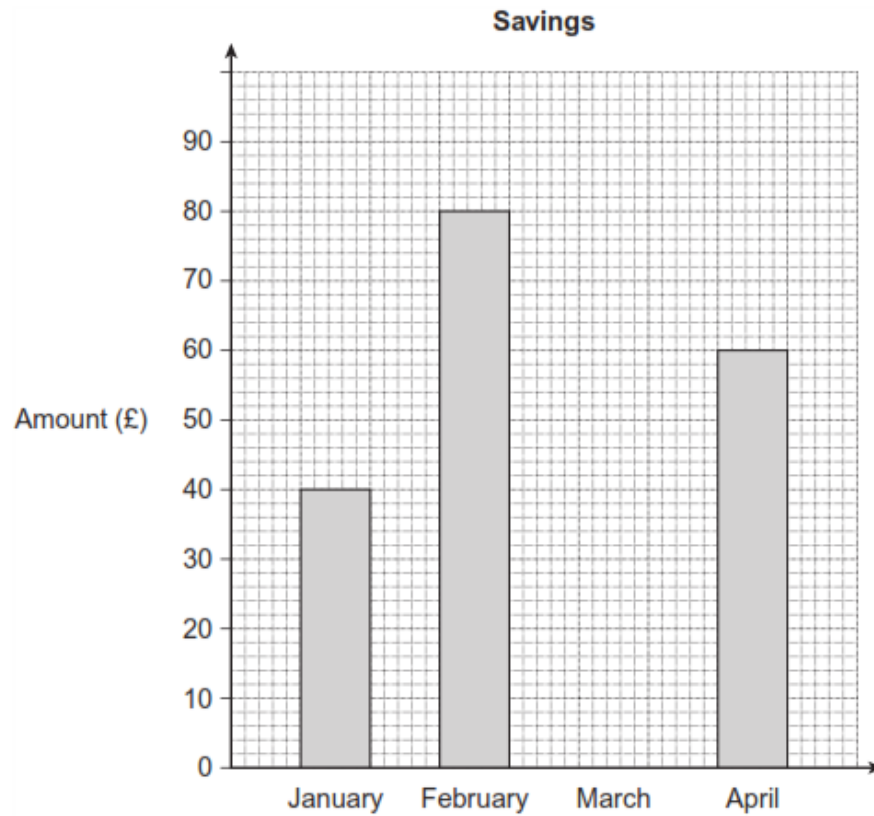
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Answer

(3)

(Total 5 marks)

- Q2.** (a) The bar chart shows the amounts Callum saves in January, February and April 2010.



- (i) How much does he save in January 2010?

Answer £

(1)

- (ii) From January to April he saves £250 in total.

Complete the bar chart by drawing the bar for March.

.....

.....

.....

.....

(3)

- (b) The pictogram shows the amounts Callum saves in the next four months.

Key:

--	--

 represents £20

May	<div></div> <div></div>	<div></div> <div></div>	<div></div> <div></div>	<div></div> <div></div>
June	<div></div> <div></div>	<div></div> <div></div>	<div></div>	
July	<div></div> <div></div>	<div></div>		
August	<div></div> <div></div>	<div></div> <div></div>	<div></div> <div></div>	<div></div>

Work out the range of the amount he saves in these four months.
You **must** show your working.

.....
.....

Answer £

(2)

- (c) (i) For the rest of 2010 Callum saves £50 each month.

How much does he save in 2010 in total?

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

Answer £

(3)

- (ii) Callum spends 50% of these total savings to pay for a holiday.

How much does he pay for the holiday?

.....
.....

Answer £

(2)

(Total 11 marks)

Q3. An estate agent advertises four houses.

House A £132 500	House B £131 950	House C £132 400	House D £131 750
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(a) Which house is the cheapest?

Answer

(1)

(b) Which house is the most expensive?

Answer

(1)

(c) What is the difference in price between the cheapest and the most expensive house?

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

Answer £

(2)

(d) Jack buys House C.
He pays a 10% deposit.

How much is 10% of £132 400?

.....
.....

Answer £

(1)

(Total 5 marks)

Q4. (a) Write down

$\sqrt{121}$

Answer

(1)

- (b) Work out $\frac{3}{5}$ of 45

.....

.....

.....

Answer

(2)

- (c) Work out 8% of 150

.....

.....

.....

Answer

(2)

(Total 5 marks)

- Q5.** John buys a phone.
He looks at the cost of 60 applications (apps).

Cost of application	Number of applications
free (0p)	30
59p	16
99p	5
£1.29	2
£1.49	1
£1.99	6

- (a) John buys all the applications costing £1.99

How much does he pay?

.....

Answer £

(2)

- (b) What fraction of the 60 applications are free?
Give your answer in its simplest form.

.....
Answer

(2)

- (c) What percentage of the 60 applications cost £1.99?

.....
.....

Circle the correct answer.

6% 10% 16% 60%

(1)

- (d) John wants to know the make of phone used by people in his class.

Write down a suitable data collection method.

Answer

(1)

(Total 6 marks)

Q6. The table shows the weather in London each day for 40 days.

Weather	Tally	Frequency
Sun		
Rain		
Snow		
Fog		
		Total = 40

- (a) Complete the table.

(2)

- (b) What fraction of the 40 days are sunny?
Give your answer in its simplest form.

.....
Answer

(2)

(c) In Manchester for the 40 days

- 16 days are sunny
- 50% of the days have rain
- there is no snow.

(i) Complete the table for Manchester.

Weather	Frequency
Sun	
Rain	
Snow	
Fog	
	Total = 40

(3)

(ii) One of the 40 days in Manchester is chosen at random.
Use a suitable probability **word** to complete the sentences.

The chance of choosing a day with snow is.....





The chance of choosing a day with rain is

(2)

(Total 9 marks)

Q7. Nick takes four tests.

The pictogram shows his scores.

English	
Geography	
Mathematics	
Science	

(a) Nick scores 60% in English.

Complete the key.

Key:



represents%

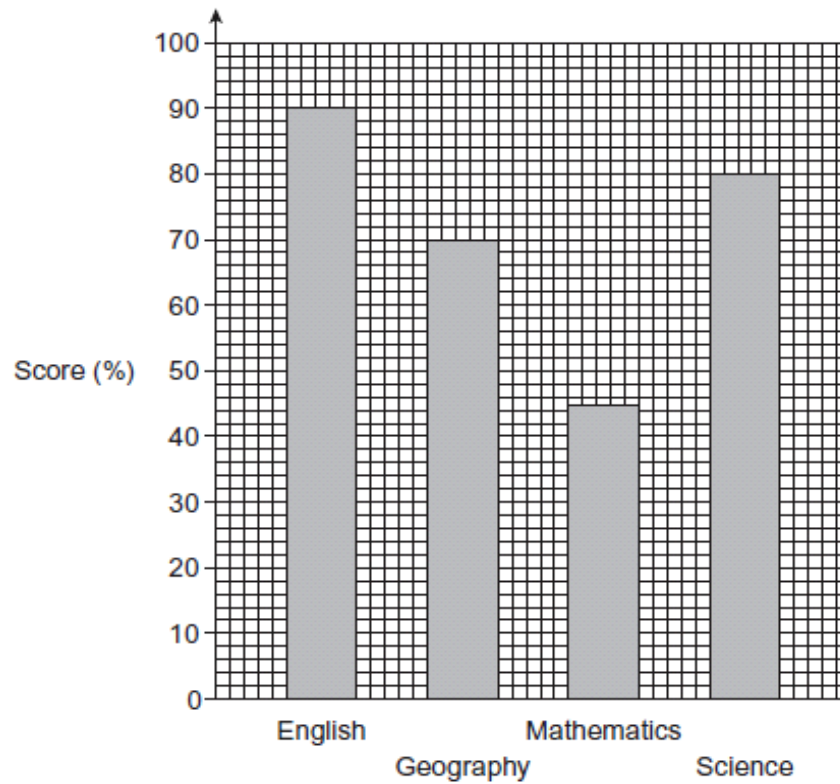
(1)

(b) In which subject is his highest score?

Answer

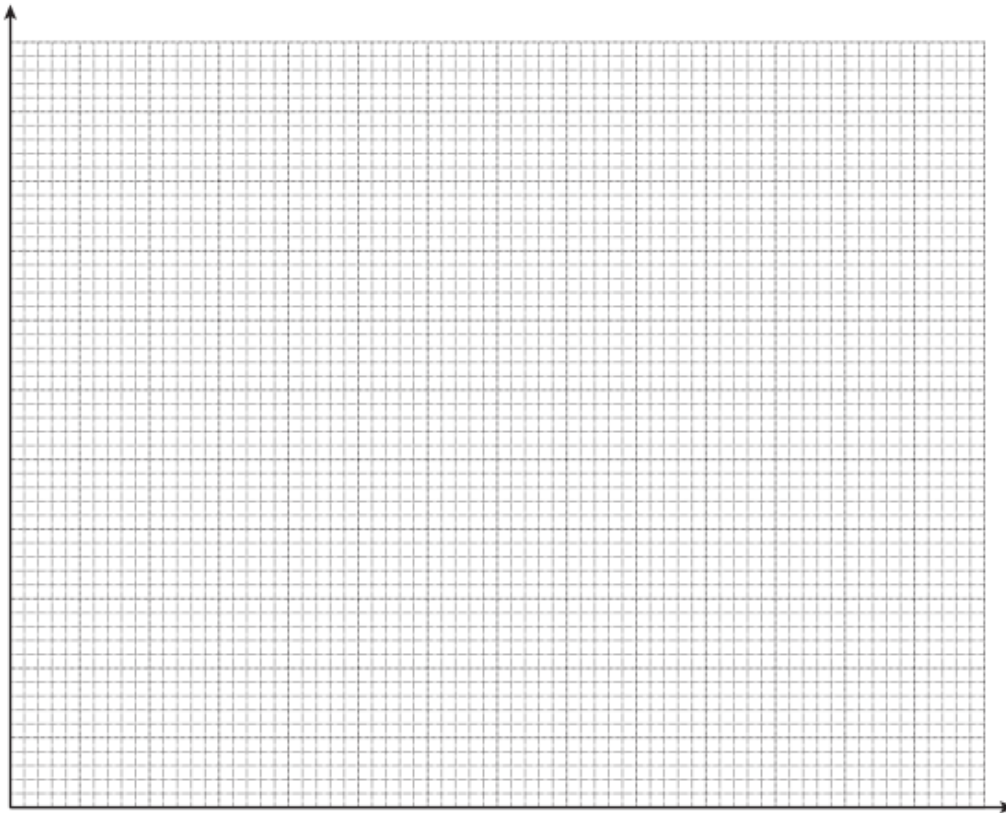
(1)

(c) Jen takes the same four tests.
The bar chart shows her scores.



- (i) Nick wants to compare his scores with Jen's scores.

Draw a suitable diagram that he can use.



(4)

- (ii) Write down **three** facts comparing their scores.

Fact 1

.....

Fact 2

.....

Fact 3

.....

(3)

(Total 9 marks)

- Q8.** (a) Work out 70% of £986.

.....

.....

Answer £.....

(2)

(b) Circle the calculations that have the same answer as 57% of 372.

A 58% of 371

B 5.7% of 37.20

C $\frac{57}{100} \times 372$

D 0.57×0.372

E 5.7% of 3720

(2)
(Total 4 marks)

Q9. Three students take the same test.

The test has 20 questions.

Each question has one mark.

The pass mark is 70%.

(a)

Elena

I had 10
questions
correct

Did Elena pass the test?

Explain your answer.

.....
.....

(1)

(b)

Clyde

I had three quarters of
the questions correct

Did Clyde pass the test?

Explain your answer.

.....
.....

(1)

(c)

Alfie

I got exactly 70%

How many questions did Alfie answer correctly?

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

Answer

(2)
(Total 4 marks)

Q10. A bag contains 6 red pens, 69 black pens and 25 blue pens.

- (a) Write down the number of red pens as a fraction of the total number of pens in the box.
Give your answer in its simplest form.

.....
.....

Answer

(2)

- (b) What percentage of the pens are **not** black?

.....

Answer%

(1)

- (c) Circle a word from the list to describe the chance of each of the following events.

- (i) A pen chosen at random from the box is red.

impossible unlikely evens likely certain

(1)

- (ii) A pen chosen at random from the box is **not** green.

impossible unlikely evens likely certain

(1)
(Total 5 marks)

Q11. Here is an advert for a summer holiday.



Summer Sun

Fantastic deals with Sunbreaks Holidays



Dates	7 nights	14 nights
1 April – 30 April	£315	£575
1 May – 6 July	£220	£400

Notes

- Prices are for one adult (16 years and over)
- Children (less than 16 years) 75% of adult price
- 10% discount if booked online (www.sunbreaks.co.uk)

- (a) Martha books a 14-night holiday in May.
She books for herself, husband Billy and daughter Mary (aged 11).
She books the holiday online.

Explain clearly why the total cost will be £990.

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.....

(4)

- (b) Salima books a 7-night holiday in April for two adults.

The travel agent adds a percentage surcharge to the cost of the holiday for booking fees.

Salima's final bill is £642.60

What was the percentage surcharge?

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.....

.....

.....

Answer %

(3)
(Total 7 marks)

- Q12.** In a school there are 800 students and 70 teachers.

10% of the students are left handed.

20% of the teachers are left handed.

How many left-handed students and teachers are there altogether?

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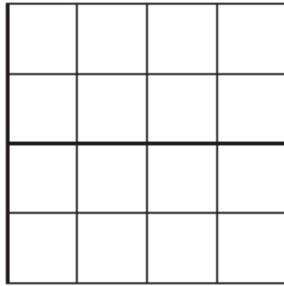
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Answer

(Total 3 marks)

Q13. How many sixteenths are there in $\frac{3}{4}$?

You may use this grid to help you.

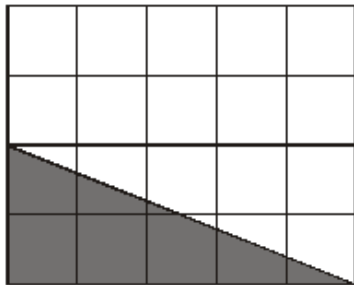


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Answer

(2)

(b) A triangle on this grid is shaded.



What percentage of the grid is shaded?

.....

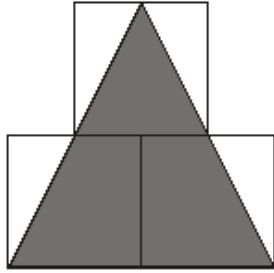
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Answer%

(2)

- (c) This shape consists of 3 equal squares.



What fraction of the shape is covered by the triangle?

.....

.....

Answer

(2)
(Total 6 marks)

- Q14.** Work out 45% of 330.

.....

.....

.....

Answer

(Total 2 marks)

- Q15.** (a) Write 0.8 as a fraction.
Give your answer in its simplest form.

.....

Answer

(2)

- (b) (i) Work out $\frac{3}{10}$ of 270.

.....

.....

Answer

(2)

- (ii) Kaye has 270 magazines.
She sells 30% of them.

How many magazines does she have left?

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.....
.....

Answer

(2)
(Total 6 marks)

Q16. (a) Work out 17×5

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

Answer

(1)

(b) Work out 10% of 52

.....
.....

Answer

(2)

(c) Write down the answer to $\frac{7}{9} - \frac{5}{9}$

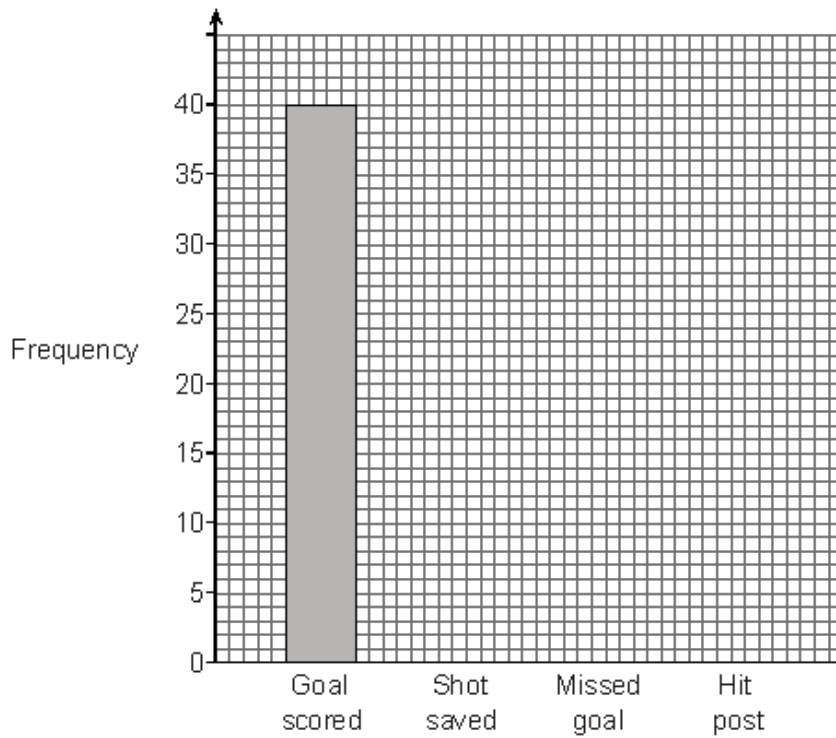
Answer

(1)
(Total 4 marks)

Q17. The table shows the results of 60 penalty kicks taken in the Premier League in one season.

Outcome	Frequency
Goal scored	40
Shot saved	8
Missed goal	10
Hit post	2

(a) Complete the bar chart to show this information.



(3)

(b) One of these 60 penalty kicks is chosen at random.

Write down the probability that a goal is scored.
Give your answer as a fraction in its simplest form.

.....

Answer

(2)

- (c) Andy says that 20% of the penalty kicks either missed the goal or hit the post.

Is Andy correct?

You **must** show your working.

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(3)
(Total 8 marks)

- Q18.** The table shows the races that 60 primary school pupils entered on their Sports Day.
They each entered one race.

Race entered	Number of pupils
Egg and spoon	18
3-legged	20
Sack	12
Obstacle	10

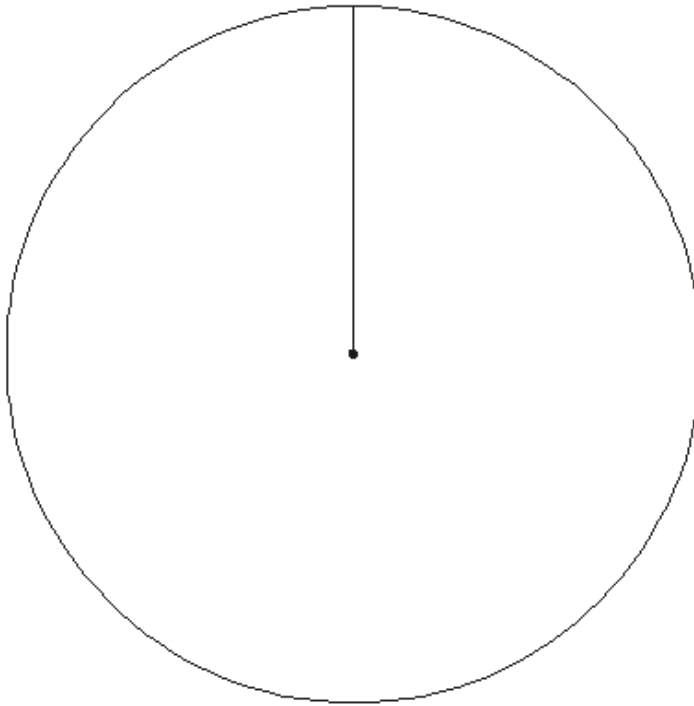
- (a) Draw and label a pie chart to represent the information in the table.

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.....



(4)

- (b) Work out the percentage of pupils who entered the egg and spoon race.

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.....

Answer%

(2)

(c) The pupils in the obstacle race took these times in seconds.

23 36 18 29 44 39 36 54 43 41

Draw an ordered stem and leaf diagram to show this information.

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Key: | 2 | 3 represents 23 seconds

(3)
(Total 9 marks)

Q19.

60% of £40

$\frac{2}{5}$ of £55

Which is the larger amount?

You **must** show your working.

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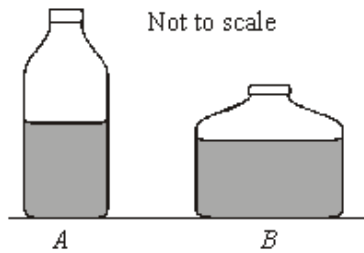
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Answer

(Total 4 marks)

- Q20.** Two bottles are on a shelf.
 The 3 litre bottle, *A*, is 55% full of water.
 The 2.5 litre bottle, *B*, is three-quarters full of water.
 Which bottle contains more water?
 You **must** show all your working.



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Answer

(Total 4 marks)

- Q21.** (a) Caroline buys 1.4 kilograms of bananas at 95 pence per kilogram.
 She also buys 0.8 kilograms of apples.
 Her total bill is £1.93
 How much per kilogram was she charged for the apples?

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.....

.....

.....

Answer pence

(4)

- (b) Jane spends £4.50 on fruit.
Her total bill is £22.50
What percentage of her total bill is for fruit?

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

Answer %

(2)
(Total 6 marks)

- Q22.** The price of a roll of film is reduced from £4 to £3.50
Calculate the reduction as a percentage of the original price.

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.....
.....

Answer %

(Total 3 marks)

- Q23.** Karl sees this advertisement in a shop window.

<p style="text-align: center;">HOCKEY KIT</p> <p style="text-align: center;">Shirt £16.50</p> <p style="text-align: center;">Pair of Shorts £8.50</p> <p style="text-align: center;">SPECIAL OFFER!</p> <p style="text-align: center;">Buy both items and receive a 10% reduction in price</p>

Karl buys both items.

How much does he pay?

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.....

Answer £

(Total 3 marks)

