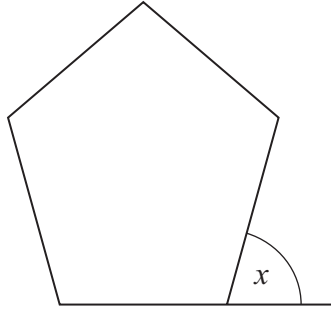


Answer **all** questions in the spaces provided.

1 This is a regular pentagon.



Not drawn accurately

Work out the value of the exterior angle, marked x on the diagram.

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Answer degrees (2 marks)

2 The cost of a taxi journey is made up of two parts.

<p>£3.50 for any distance up to 1 kilometre.</p> <p>30p for every 100 metres after the first kilometre.</p>

How much will a taxi journey of 3 kilometres cost?

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Answer £ (3 marks)

5

Turn over ►



3 (a) Here is a sequence.

1 8 22

To find the next term the rule is

add 3 and then multiply by 2

Work out the next term in the sequence.

.....

Answer (1 mark)

3 (b) Here is a different sequence.

1 15

To find the next term the rule is

add a , where a is an integer, and then multiply by 3

Work out the third term in the sequence.

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Answer (3 marks)

4 (a) Use your calculator to work out $\frac{5.39}{8.34 - 2.17}$

4 (a) (i) Write down your full calculator display.

Answer (1 mark)

4 (a) (ii) Give your answer to 3 significant figures.

Answer (1 mark)

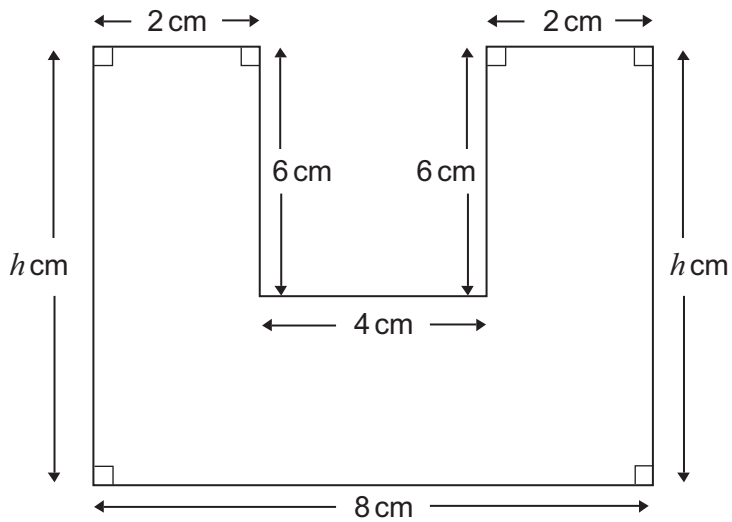
4 (b) Calculate the reciprocal of 0.8

.....

Answer (1 mark)



- 5 This shape has measurements as given in the diagram.



Not drawn
accurately

The area of the shape is 56 cm^2 .

Work out the length marked h cm in the diagram.

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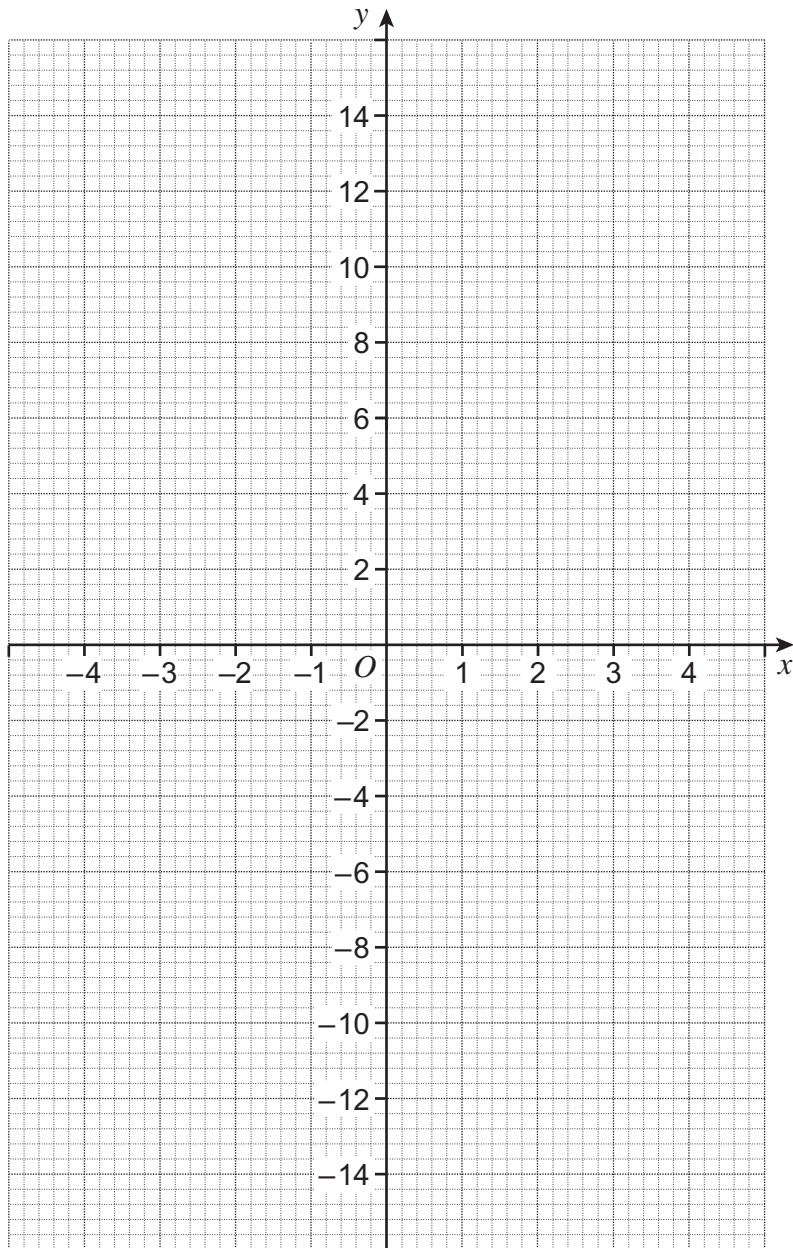
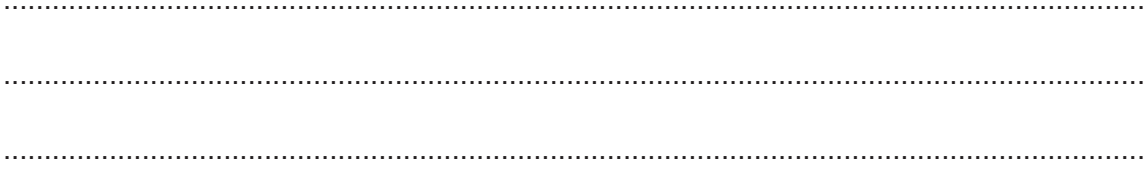
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Answer cm (3 marks)

Turn over for the next question



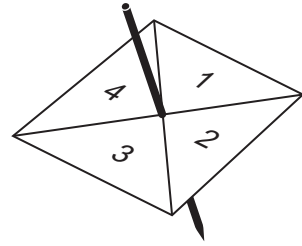
6

Draw the graph of $y = 3x - 1$ for $-4 \leq x \leq 4$ 

(3 marks)



- 7 (a) A four-sided spinner is spun 1000 times.



The results are shown in the table.

Number	1	2	3	4
Frequency	126	241	389	244

- 7 (a) (i) What is the relative frequency of a 1?

.....

Answer (1 mark)

- 7 (a) (ii) How can you tell that the spinner is biased?

.....

.....

.....

(1 mark)

- 7 (b) A regular fair six-sided dice is thrown 600 times.

How many times would you expect the dice to land on 6?

.....

Answer (1 mark)



8 (a) Write the fraction $\frac{16}{5}$ as a mixed number.

Answer (1 mark)

8 (b) Use your calculator to work out $\frac{2}{5} + \frac{2}{9}$
Give your answer as a fraction.

Answer (1 mark)

8 (c) Use your calculator to work out $2\frac{1}{2} \div 1\frac{7}{8}$
Give your answer as a mixed number.

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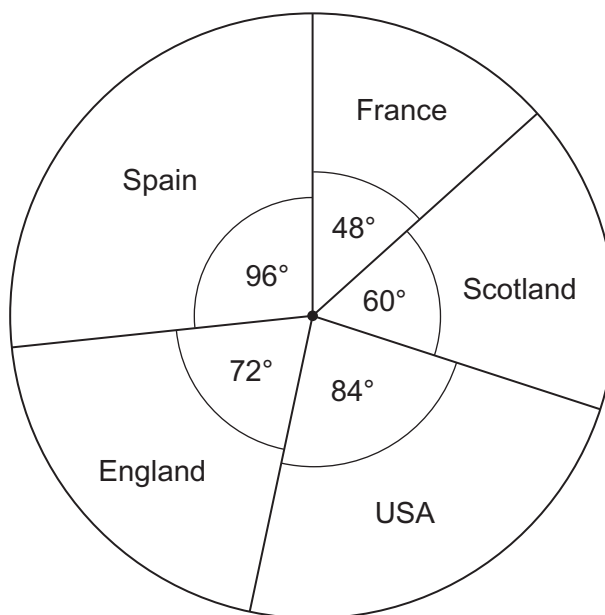
Answer (1 mark)

8 (d) Write the fraction $\frac{2}{11}$ as a recurring decimal.

Answer (1 mark)

9 The pie chart shows the holiday destinations of 60 Year 11 students.

**Holiday
destinations
of 60 Year 11
students**



90 Year 10 students went to the same five destinations as the 60 Year 11 students.

- Only 8 Year 10 students had a holiday in Scotland.
- The same **number** of Year 10 students as Year 11 students had a holiday in the USA.
- Half the Year 10 students had a holiday in either Spain or the USA.
- The same **proportion** of Year 10 students had a holiday in England as Year 11 students.
- The remainder of the Year 10 students had a holiday in France.

Complete a fully labelled, accurate pie chart to show the holiday destinations of the 90 Year 10 students.

The sector for Scotland has been drawn accurately for you.

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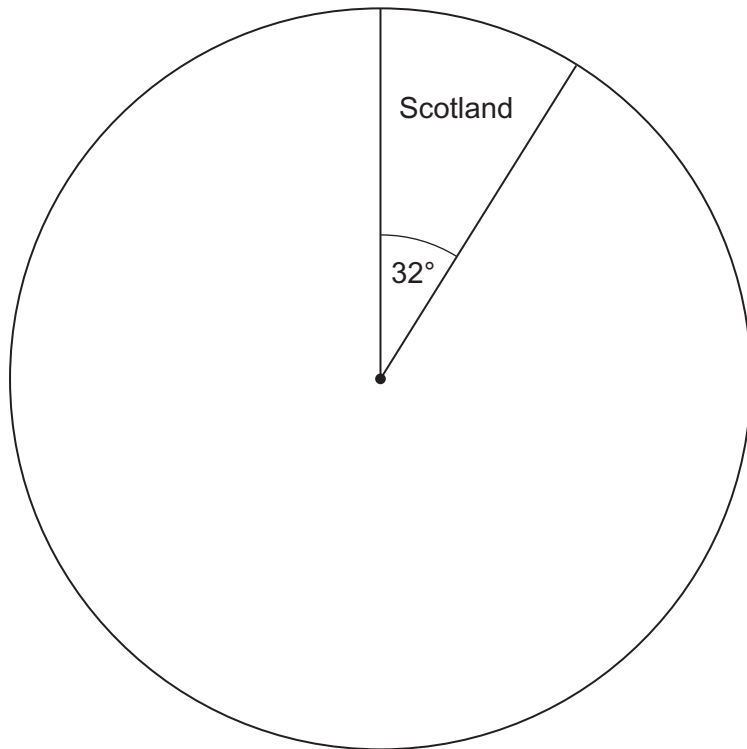
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Holiday destinations of 90 Year 10 students



(4 marks)

8

Turn over ►



10 A packet of breakfast cereal has the following information on it.

Protein: 10.3 g per 100 g of cereal

The recommended daily amount of protein for an adult male is 50 g.

What percentage of the recommended daily amount of protein does 40 g of cereal provide?

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Answer % (3 marks)

11 Two lanes of a motorway are being resurfaced.
Each lane is 4 metres wide.
The speed limit through the road works is 80 km/h.
It takes 15 minutes to drive through the road works at this speed.

Calculate the area being resurfaced.
Give your answer in square kilometres.

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Answer km² (4 marks)



12 Use trial and improvement to find a solution to the equation

$$x^3 + 6x = 29$$

Continue the table of results.
Give your solution to 1 decimal place.

x	$x^3 + 6x$	Comment
2	20	Too small

.....

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Answer $x =$ (4 marks)



13 This table shows the heights, h , in centimetres, of 30 girls in Year 10.

Height, h (cm)	Frequency	Midpoint	
$120 < h \leq 130$	3		
$130 < h \leq 140$	6		
$140 < h \leq 150$	7		
$150 < h \leq 160$	8		
$160 < h \leq 170$	6		

Use the midpoint of each height group to calculate an estimate of the mean height of the girls.

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Answer cm (3 marks)

