Name: _____

BennettMaths AQA 3H – Part 1

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

1 The line with equation $y = 6x - 3$ intersects the y-axis at *A*.

Complete the coordinates of *A*.

[1 mark]

Answer (0 , _____)

2 Write down a fraction equivalent to 2.925

[1 mark]

Answer _____

3 Solve $10x - 17 = 4x + 13$

[2 marks]

$x =$ _____

4 A map has a scale of 1 : 6500

How many **metres** are represented by a length of 3.8 cm on the map?

[2 marks]

Answer _____ m

5 The number of foxes in England is expected to **increase** by 2% each year.

Assume there are now 357 000 foxes in England.

Work out the expected number of foxes in England after **six** years.
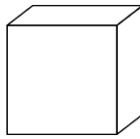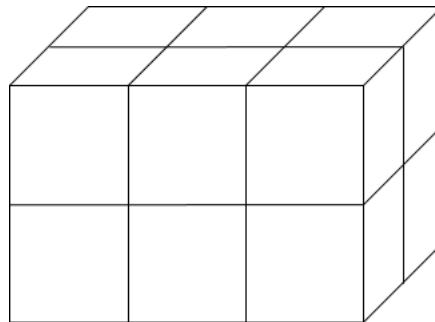
You **must** show your working.

[3 marks]

Answer _____

Turn over for the next question

9

Turn over ▶

6 Here is a cube A.

A

Not drawn accurately

Cuboid B is made from **twelve** of cube A.

B

volume of A : volume of B = 1 : 12

Henry says,
"surface area of A : surface area of B must be 1 : 12 because cuboid B is made of 12 of A."

Is Henry correct?

Tick **one** box.

☐ Yes   ☐ No   ☐ Cannot tell

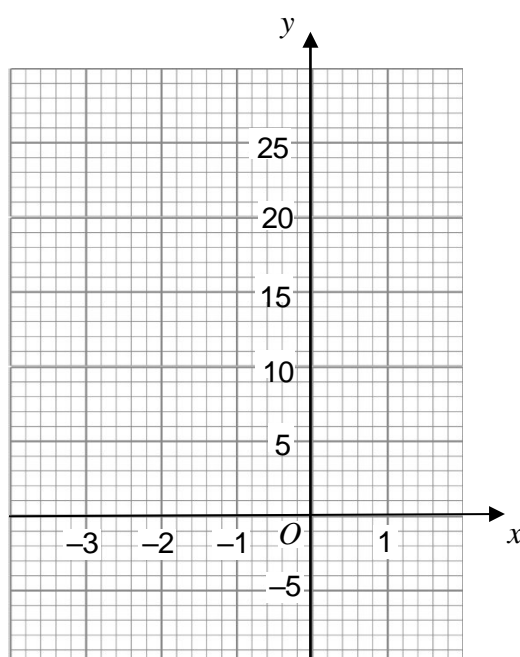Give a reason for your answer.

[2 marks]

7 (a) Complete the table of values for $y = x^2 - 4x$

[2 marks]

x	–3	–2	–1	0	1
y	21		5	0	

7 (b) Draw the graph of $y = x^2 - 4x$ for values of x from –3 to 1

[2 marks]

Turn over for the next question

6

Turn over ▶

8 Shirley has £5625

She saves some and donates the rest to charity.

money saved : money given to charity = 2 : 7

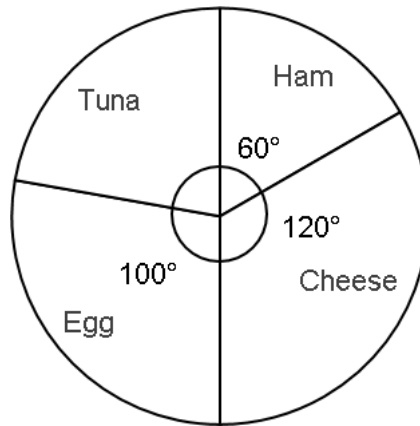She gives each of **five** charities the **same** amount.

Does each charity receive more than £870 ?

You **must** show your working.

[4 marks]

9 The pie chart shows information about customers choice of sandwich filling.

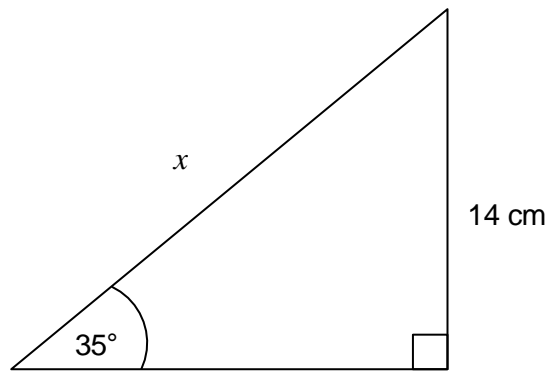Not drawn accurately

12 **more** customers chose egg than chose ham.

Work out the number of customers who chose tuna.

[3 marks]

Answer _____

Turn over for the next question

7

Turn over ▶

10   Use trigonometry to work out the value of x.

Not drawn
accurately

x

14 cm

35°

[3 marks]

_____

_____

_____

_____

_____

$x =$ _____ cm

11 Aiza is estimating the value of $\dfrac{2}{\left(\sqrt{4.36}\right)^3 \times 5.49}$

She rounds each decimal number to 1 significant figure.

11 (a) Work out Aiza's estimate.

You **must** show your working.

[2 marks]

Answer _____

11 (b) Aiza says,

"My estimate must be larger than the exact value."

Without working out the exact value, give a reason how she can know this.

[1 mark]

Turn over for the next question

6

Turn over ▶