Name: _____

BennettMaths AQA 3F – Part 3

17 Match the name to the correct sequence.

One has been done for you.

[2 marks]

Name   **Sequence**

10, 7, 4, 1, –2…

Quadratic sequence

7, 16, 27, 40, 55

Linear sequence

1, 5, 9, 11, 13

Fibonacci-type sequence

2, 5, 7, 12, 19, 31

18 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 _____
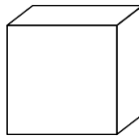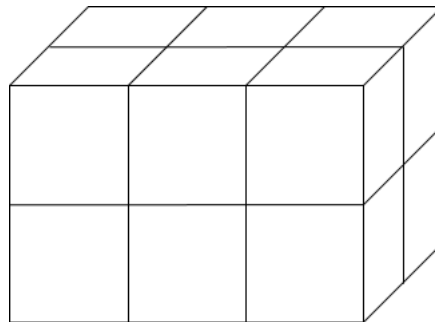
8

Turn over ▶

19 Here is a cube A.

A

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]

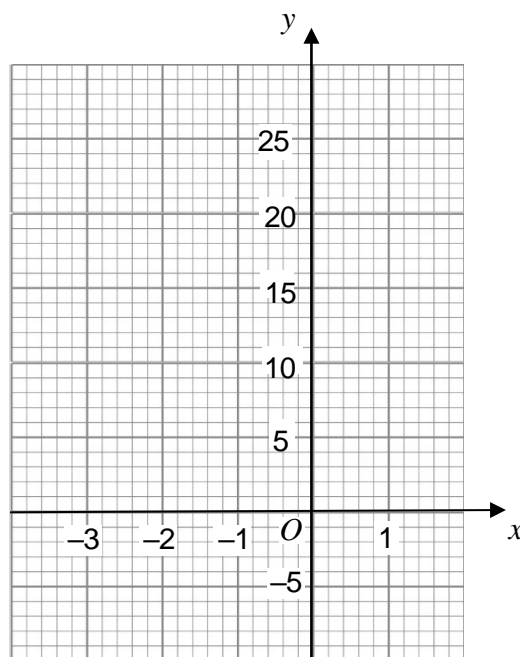**20 (a)** Complete the table of values for $y = x^2 - 4x$

[2 marks]

x	−3	−2	−1	0	1
y	21		5	0	

20 (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 ▶

21   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 ?
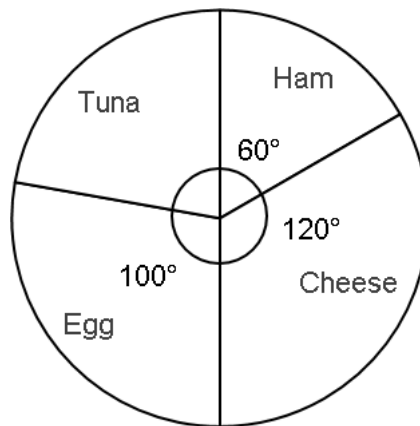
You **must** show your working.

[4 marks]

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

Not drawn accurately

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

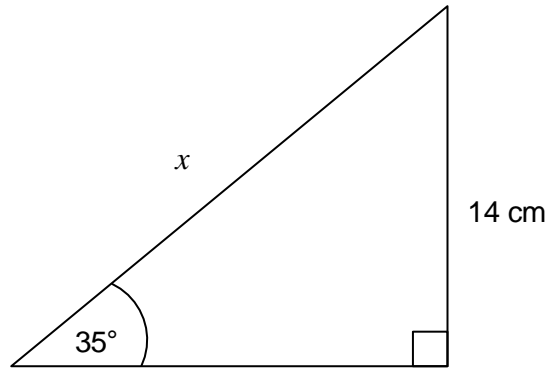Work out the number of customers who chose tuna.

[3 marks]

Answer _____

Turn over for the next question

7

Turn over ▶

23   Use trigonometry to work out the value of x.

Not drawn accurately

x

14 cm

35°

[3 marks]

$x = $ _____ cm

24 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.

24 (a) Work out Aiza's estimate.

You **must** show your working.

[2 marks]

_____

_____

_____

_____

_____

_____

Answer _____

24 (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 ▶

25 (a) Factorise $x^2 + 4x - 21$

[2 marks]

Answer _____

25 (b) Write down the **two** solutions of $(y - 9)(y - 2) = 0$

[1 mark]

Answer _____

END OF QUESTIONS