GCSE Grade 4

Maths Booklet 1

Paper 3H
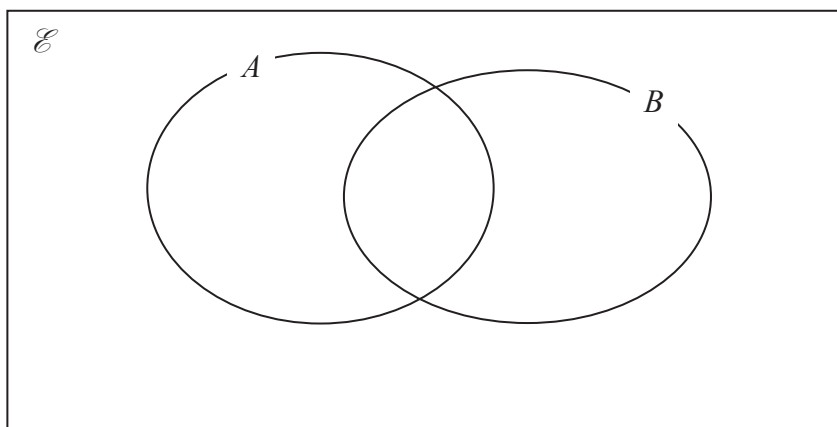Calculator

www.ggmaths.co.uk

1    $\mathscr{E}$ = {1, 2, 3, 4, 5, 6, 7, 8, 9}
    A = {1, 5, 6, 8, 9}
    B = {2, 6, 9}

(a) Complete the Venn diagram to represent this information.

(3)

A number is chosen at random from the universal set $\mathscr{E}$.

(b) Find the probability that the number is in the set $A \cap B$

....

(2)

(Total for Question 1 is 5 marks)

P 5 5 6 0 2 A 0 2 2 4

2 Katy invests £200 000 in a savings account for 4 years.
The account pays compound interest at a rate of 1.5% per annum.

Calculate the total amount of interest Katy will get at the end of 4 years.

£...

(Total for Question 2 is 3 marks)

3 The table shows information about the heights of 80 plants.

Height (h cm)	Frequency
$10 < h \leqslant 20$	7
$20 < h \leqslant 30$	13
$30 < h \leqslant 40$	14
$40 < h \leqslant 50$	12
$50 < h \leqslant 60$	16
$60 < h \leqslant 70$	18

(a) Find the class interval that contains the median.

....

(1)

(b) On the grid, draw a frequency polygon for the information in the table.

Height (h cm)

(2)
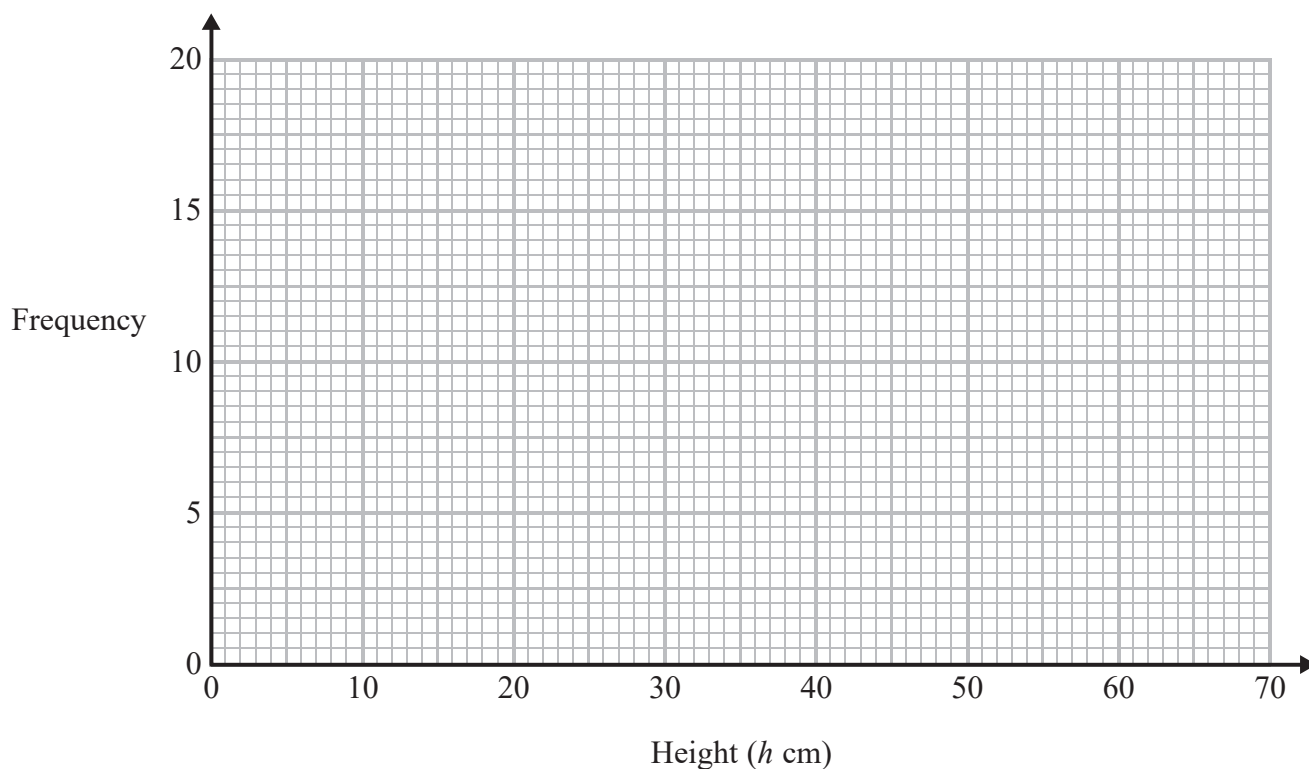
(Total for Question 3 is 3 marks)

4 Sean has drawn a time series graph to show the numbers, in thousands, of visitors to a fun park.

Number of visitors (thousands)

Year
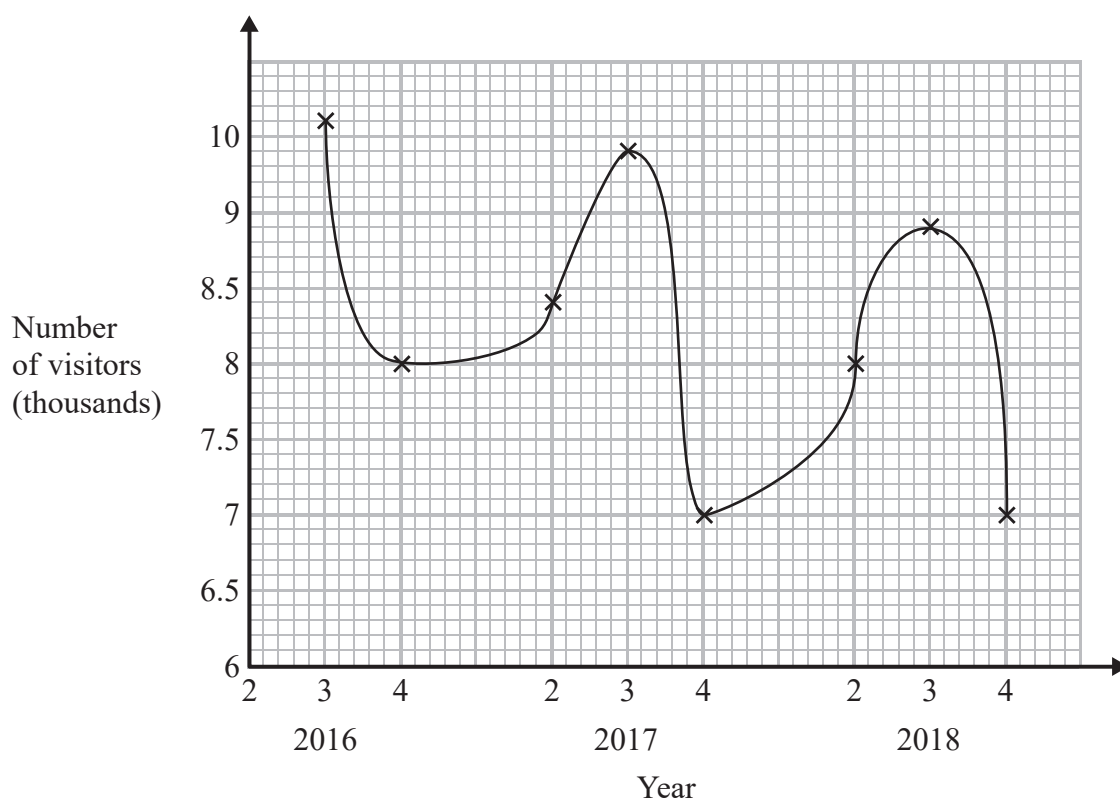
Write down two things that are wrong or could be misleading with this graph.

1 ....

....

....

2 ....

....

....
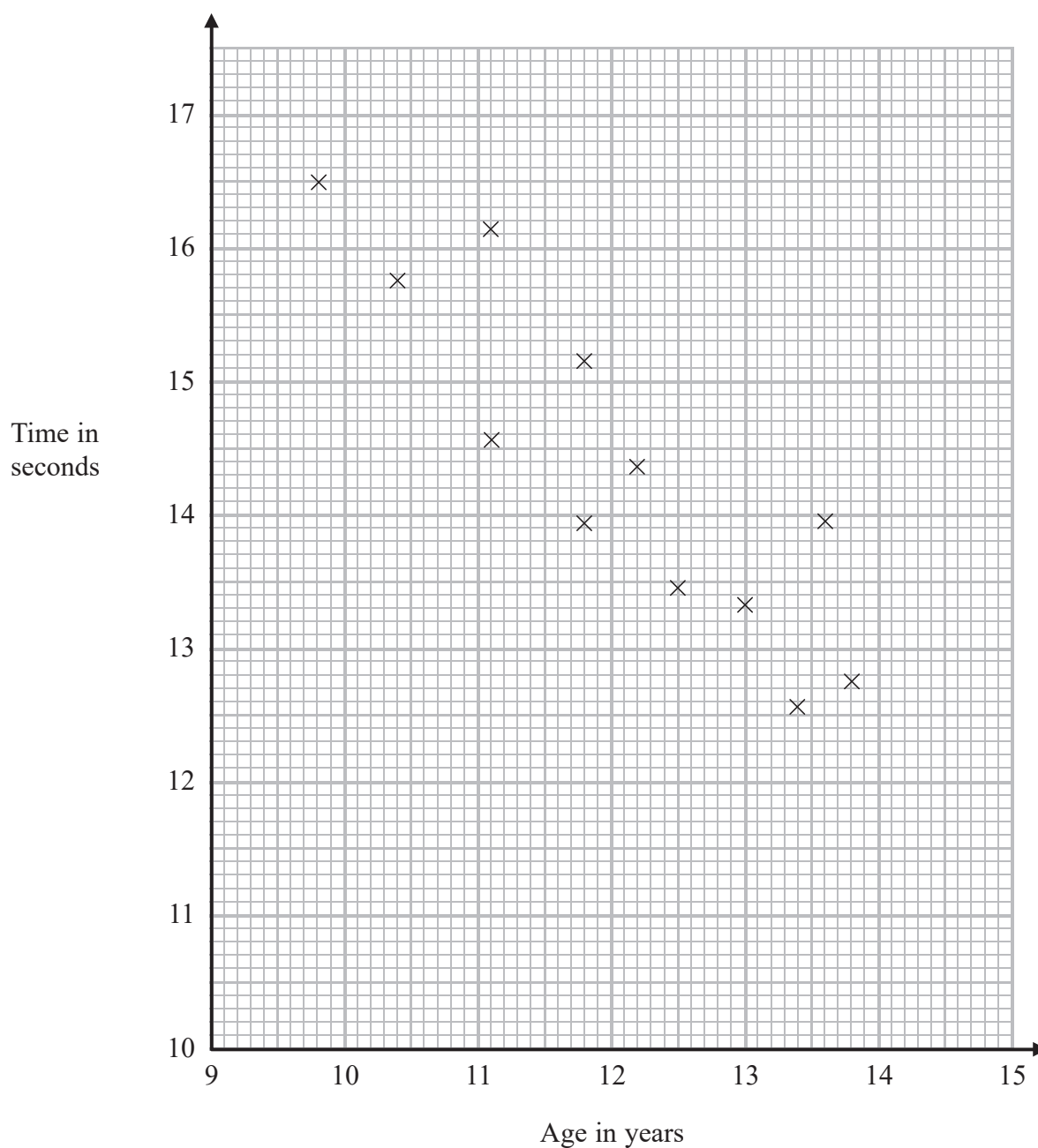
(Total for Question 4 is 2 marks)

Turn over ▶

5 The scatter diagram shows information about 12 girls.

It shows the age of each girl and the best time she takes to run 100 metres.

(a) Write down the type of correlation.

....

(1)

Kristina is 11 years old.
Her best time to run 100 metres is 12 seconds.

The point representing this information would be an outlier on the scatter diagram.

(b) Explain why.

....

....

(1)

Debbie is 15 years old.
Debbie says,
    "The scatter diagram shows I should take less than 12 seconds to run 100 metres."
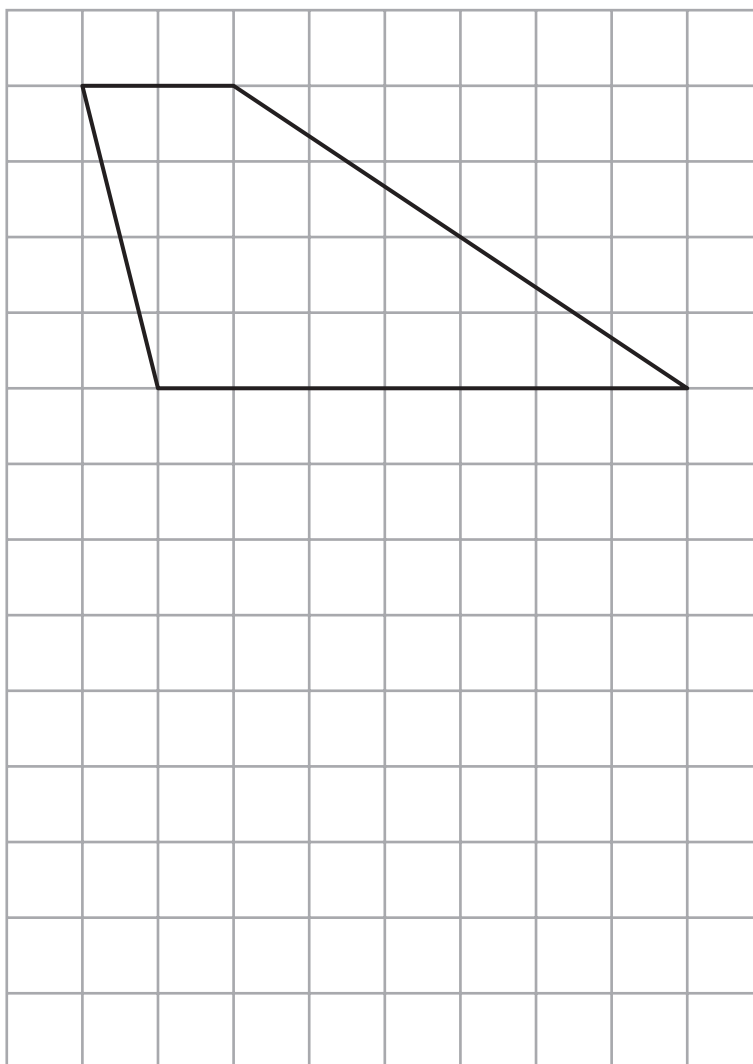
(c) Comment on what Debbie says.

....

....

(1)

(Total for Question 5 is 3 marks)

6 Expand and simplify $5(p + 3) - 2(1 - 2p)$

....

(Total for Question 6 is 2 marks)

7 Here is a trapezium drawn on a centimetre grid.

On the grid, draw a triangle equal in area to this trapezium.

(Total for Question 7 is 2 marks)

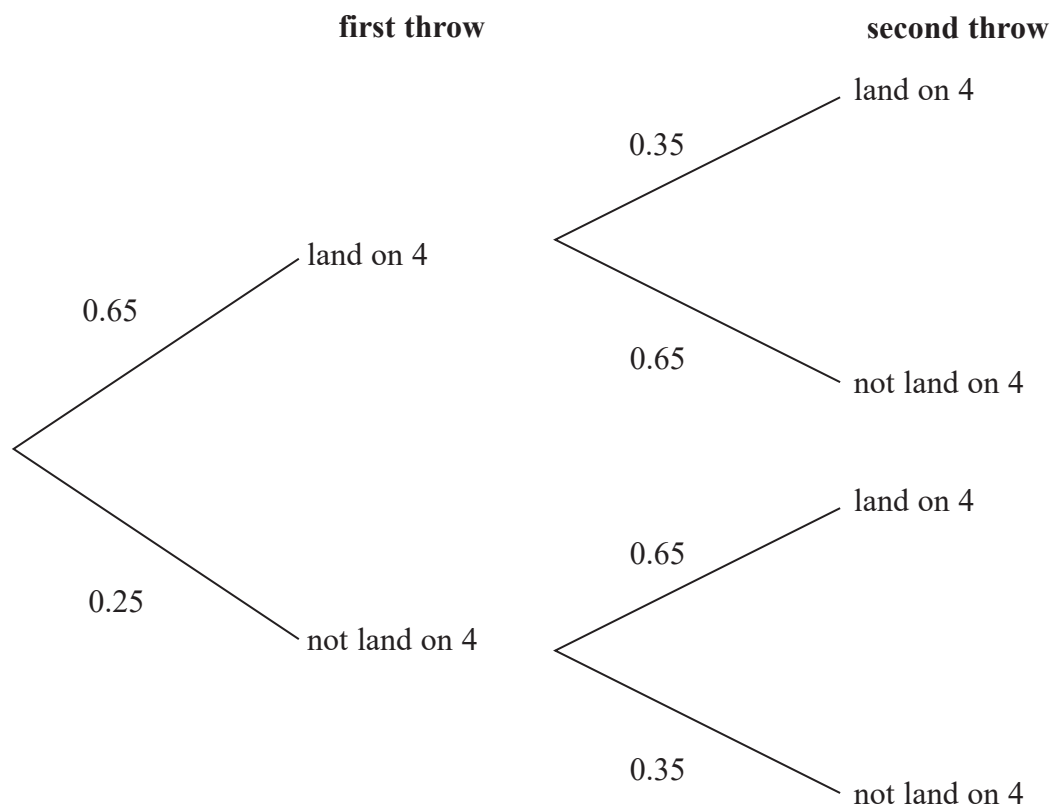8   When a biased 6-sided dice is thrown once, the probability that it will land on 4 is 0.65
    The biased dice is thrown twice.

    Amir draws this probability tree diagram.
    The diagram is **not** correct.

    Write down **two** things that are wrong with the probability tree diagram.

1 ....

    ....

2 ....

    ....

                                              (Total for Question 8 is 2 marks)