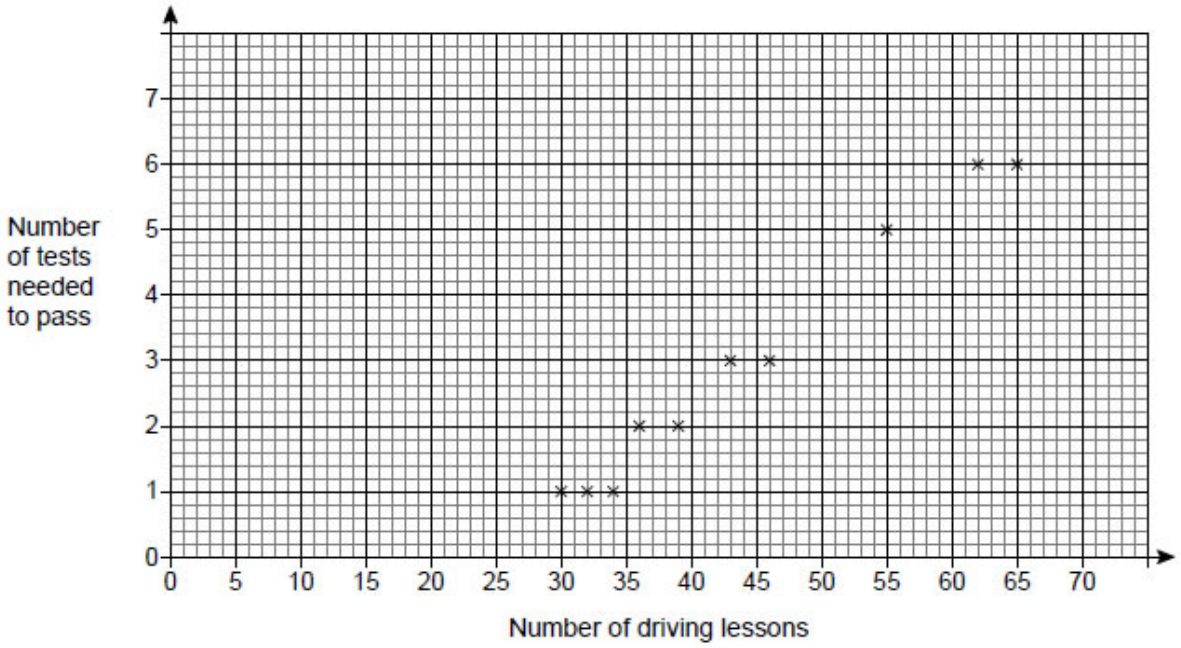
Non-Calculator

Q1.

The scatter graph shows the number of driving lessons and the number of tests needed to pass by 10 people.



(a) What proportion of the 10 people passed on their first test?

Answer _____

(1)

(b) Describe the correlation.

Circle your answer.

strong positive weak positive weak negative strong negative

(1)

(c) Use a line of best fit to estimate the number of tests needed to pass by a person who has 50 lessons.

Answer _____

(2)

(d) Meera says,

"I can use the trend to predict the number of driving tests needed to pass for any number of driving lessons."

Comment on her statement.

_____

_____

_____

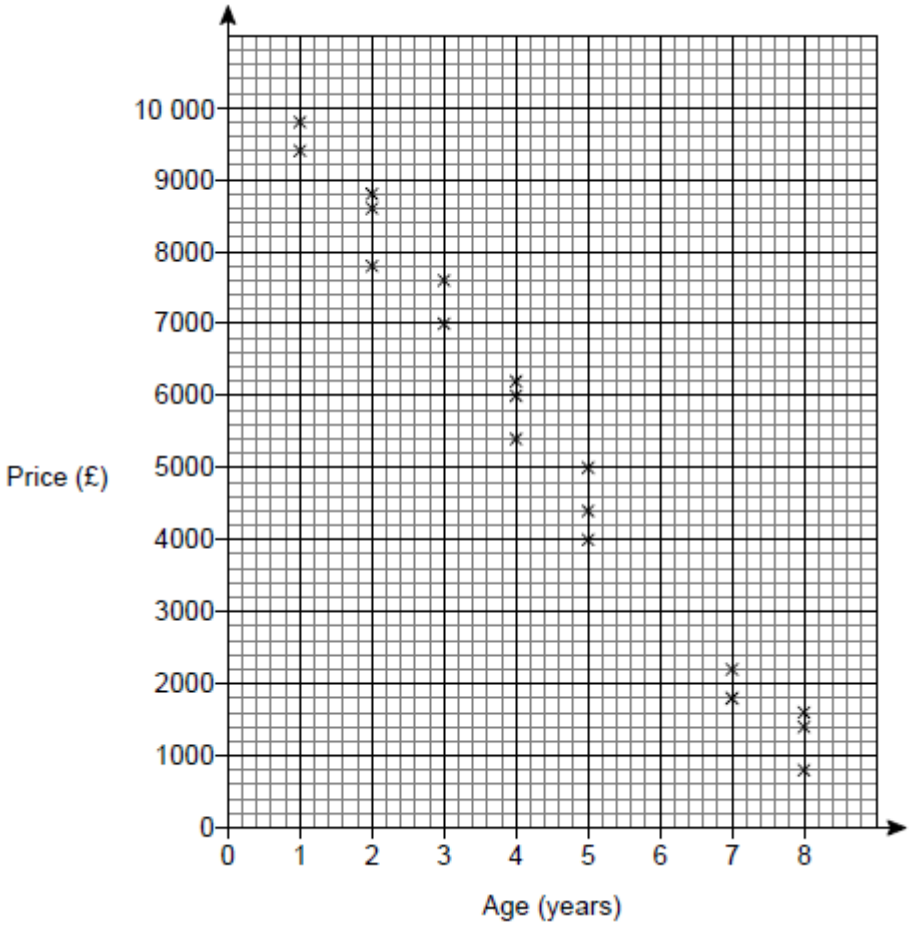
(1)

(Total 5 marks)

Q2.

The scatter graph shows the age and the price of 18 cars.

The cars are all the same make and model.



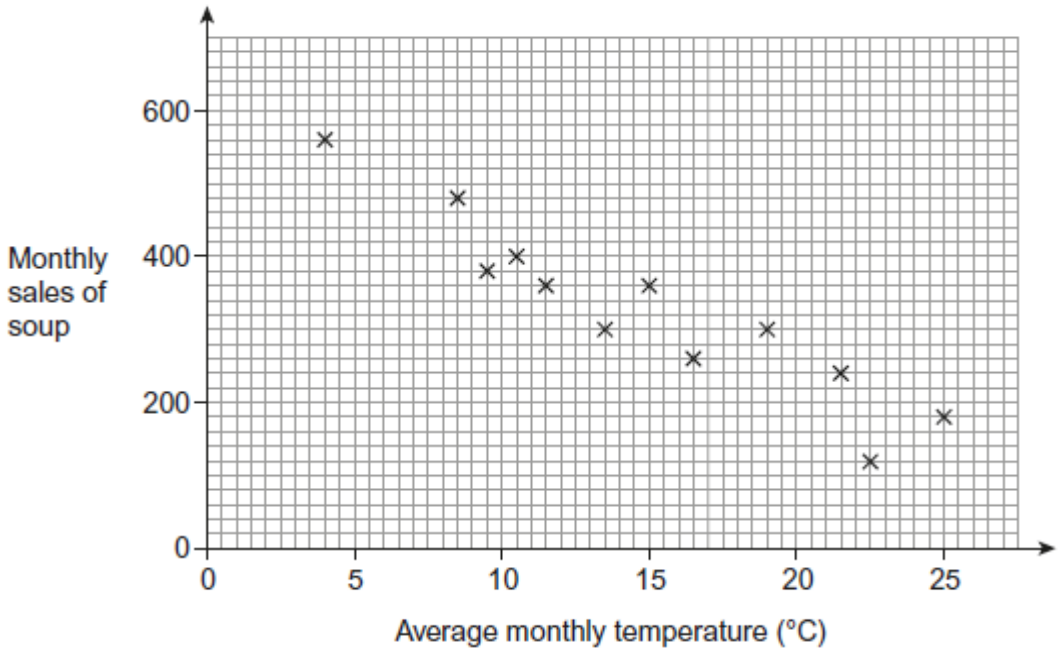
Use a line of best fit to estimate the price of a 6-year old car.

Answer £ _____

(Total 2 marks)

Q3.

A café owner records the average monthly temperature and the monthly sales of soup over a year.



(a) The scatter graph shows negative correlation.

Write down the relationship between average monthly temperature and monthly sales of soup.

_____

_____

(1)

(b) The average monthly temperature for the next month is predicted to be 7°C

Use the graph to estimate the sales of soup that month.
You **must** show your working.

_____

_____

Answer _____

(2)

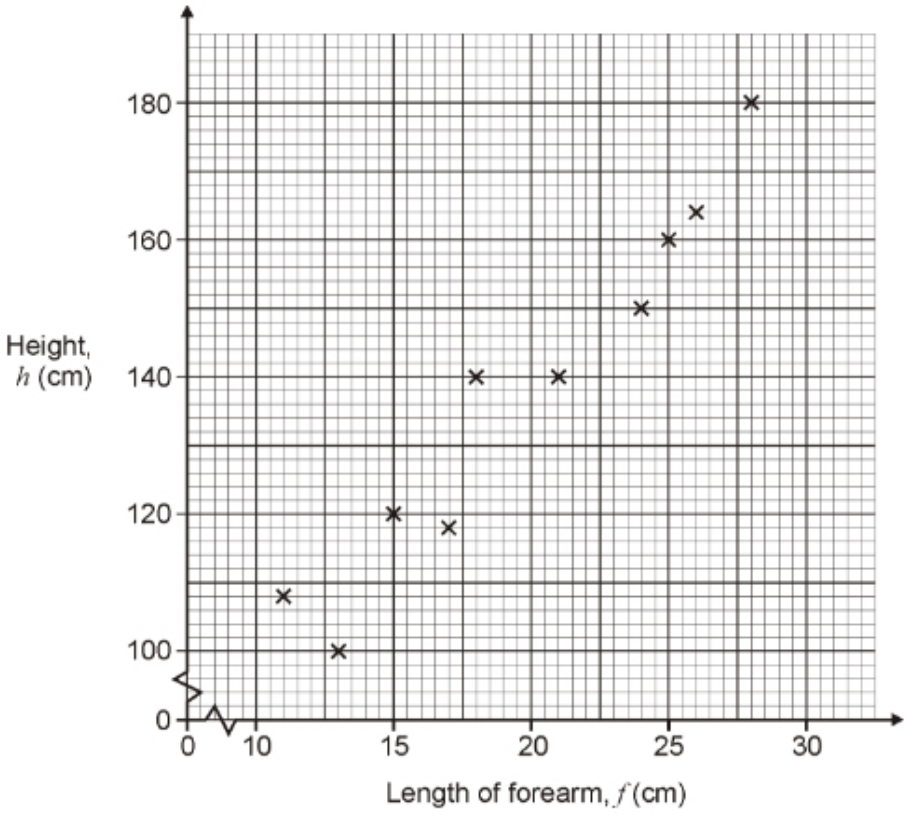
(Total 3 marks)

Q4.

The table shows the length of the forearm, f, measured in cm, and the height, h, measured in cm, for 10 people.

Person	Length of forearm, f (cm)	Height, h (cm)
A	11	108
B	25	160
C	18	140
D	28	180
E	15	120
F	21	140
G	17	118
H	26	164
I	13	100
J	24	150

A scatter diagram of the data is shown below.



(a) Another person has a height of 145 cm

Use the scatter diagram to estimate the length of their forearm.
Show clearly how you found your estimate.

_____

_____

Answer _____ cm

(2)

(b) An approximate formula connecting h and f is $h = 4 \times f + 60$

Choose a person from the table and test the formula.

Person chosen ___

Does the formula work **exactly**?
Tick a box.

☐ Yes ☐ No

Show how you worked out your answer.

_____

_____

_____

(2)

(Total 4 marks)

Calculator

Q5.

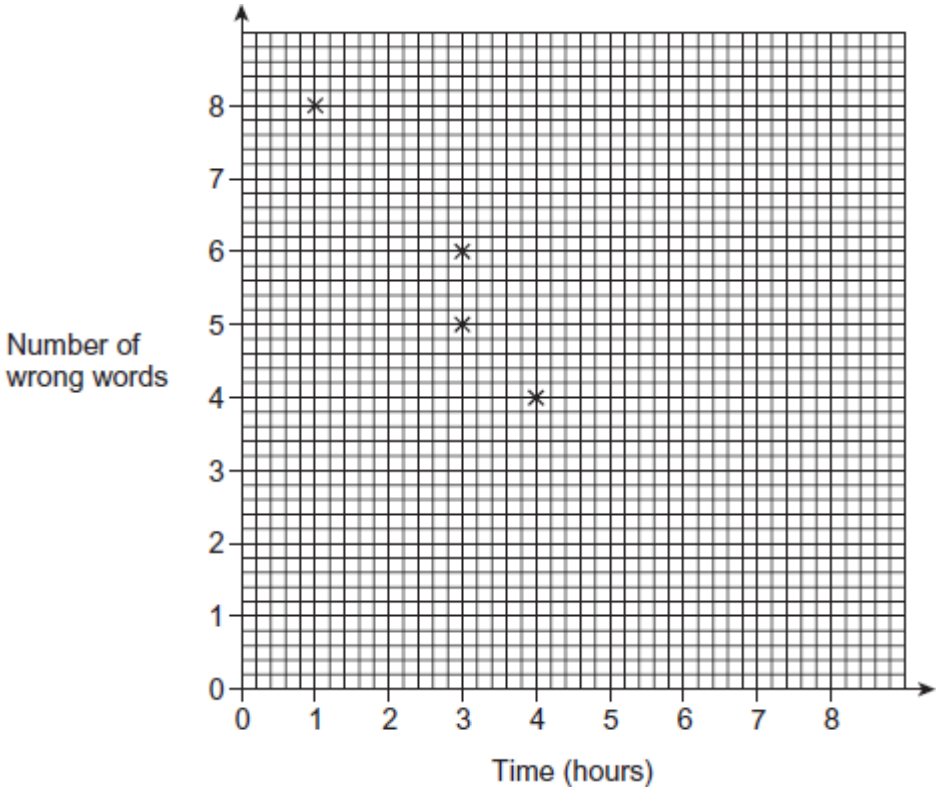
Seven students have to learn some French words.

The table shows the time they spent learning the words and the number of words they got wrong in a test.

Time (hours)	1	3	3	4	6	7	8
Number of wrong words	8	6	5	4	3	2	2

(a) The first four points have been plotted.

Complete the scatter diagram.



(1)

(b) Describe the relationship shown by the scatter diagram.

_____

_____

_____

(1)

(c) Another student spent 5 hours learning the words.

Use a line of best fit to estimate the number of words he got wrong.

Answer _____

(2)

(d) Ellie has to take the test.

She says,

"If I learn the words for 12 hours, I will definitely not get any wrong."

Is she correct?
Give a reason for your answer.

_____

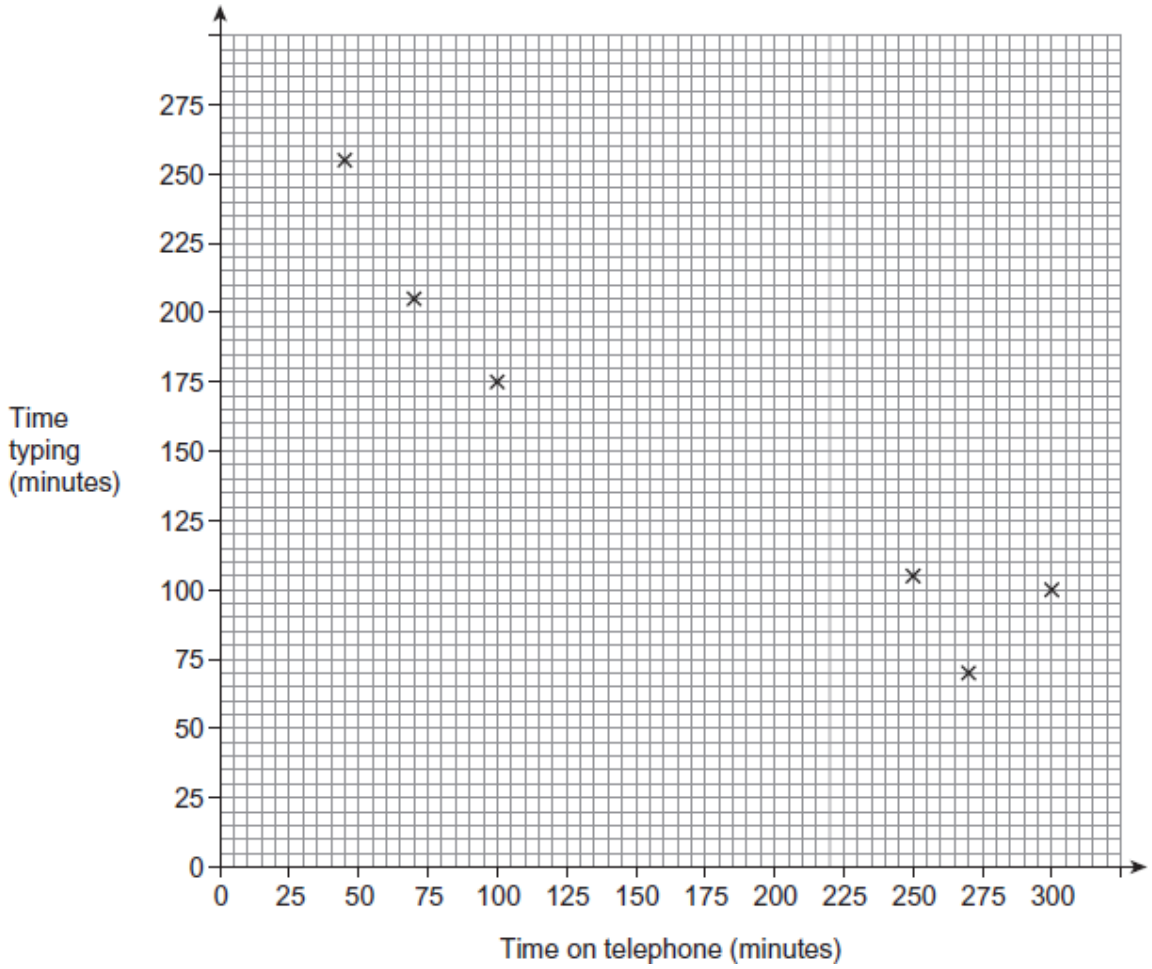
_____

(1)

(Total 5 marks)

Q6.

A secretary types letters and answers the telephone.
The times spent on six days are shown on the scatter graph.



(a) The table shows the times spent on the next four days.

Time on telephone (minutes)	275	150	125	180
Time typing (minutes)	125	190	225	175

Show these times on the scatter graph.

(2)

(b) Draw a line of best fit.

(1)

(c) On another day she spent 200 minutes on the telephone.

Use your line of best fit to estimate the time she spent typing that day.

Answer _____ minutes

(1)

(Total 4 marks)