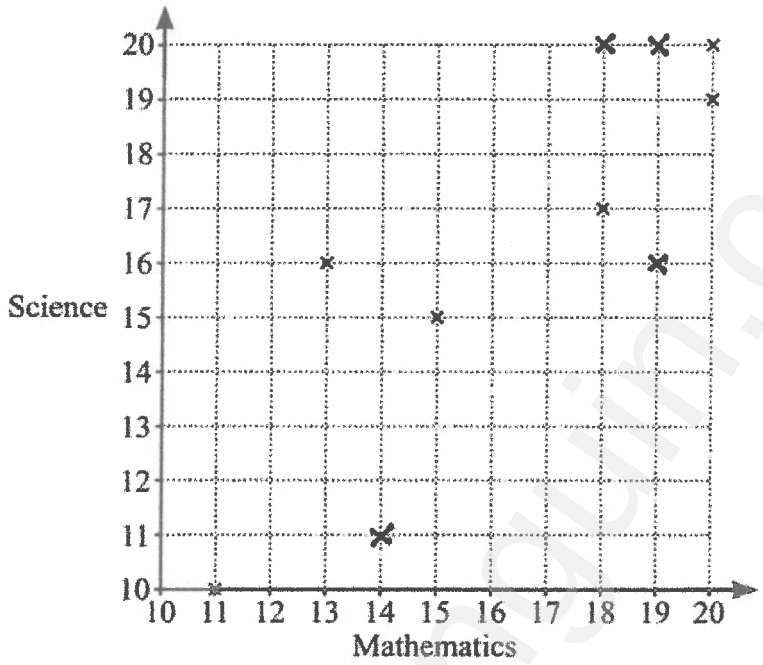
2 10 students each record their test scores in mathematics and in science.
The table shows the results.

Mathematics	20	18	13	20	11	15	18	14	19	19
Science	20	17	16	19	10	15	20	11	20	16



(a) Complete the scatter diagram.
The first six points have been plotted for you. [2]

(b) Write down the type of correlation shown in your scatter diagram.

positive [1]

7 As the temperature increases, the number of people who go swimming increases.

Write down the type of correlation that this statement describes.

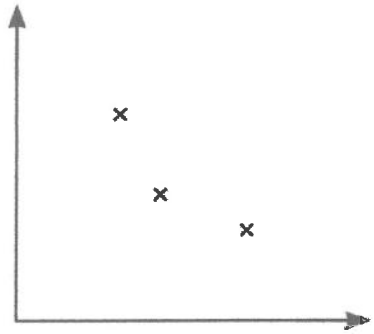
positive [1]

5 The number of bowls of hot soup sold decreases when the temperature rises.

What type of correlation does this statement describe?

negative [1]

5 **(a)** Henrik draws this scatter diagram.



Put a ring around the **one** correct statement about this scatter diagram.

It shows no correlation.

It is not possible to tell if there is correlation as there are not enough points.

It shows negative correlation.

It shows positive correlation.

[1]

(read at least 5/6 points)

(b) Each of the four scatter diagrams shows the same set of data.
A line has been drawn on each diagram.

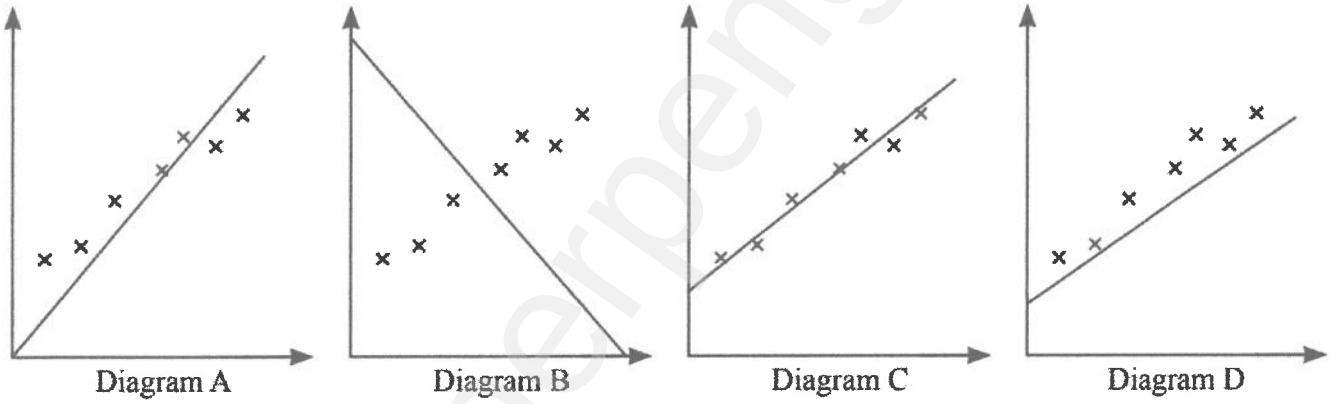


Diagram A

Diagram B

Diagram C

Diagram D

Complete the statement.

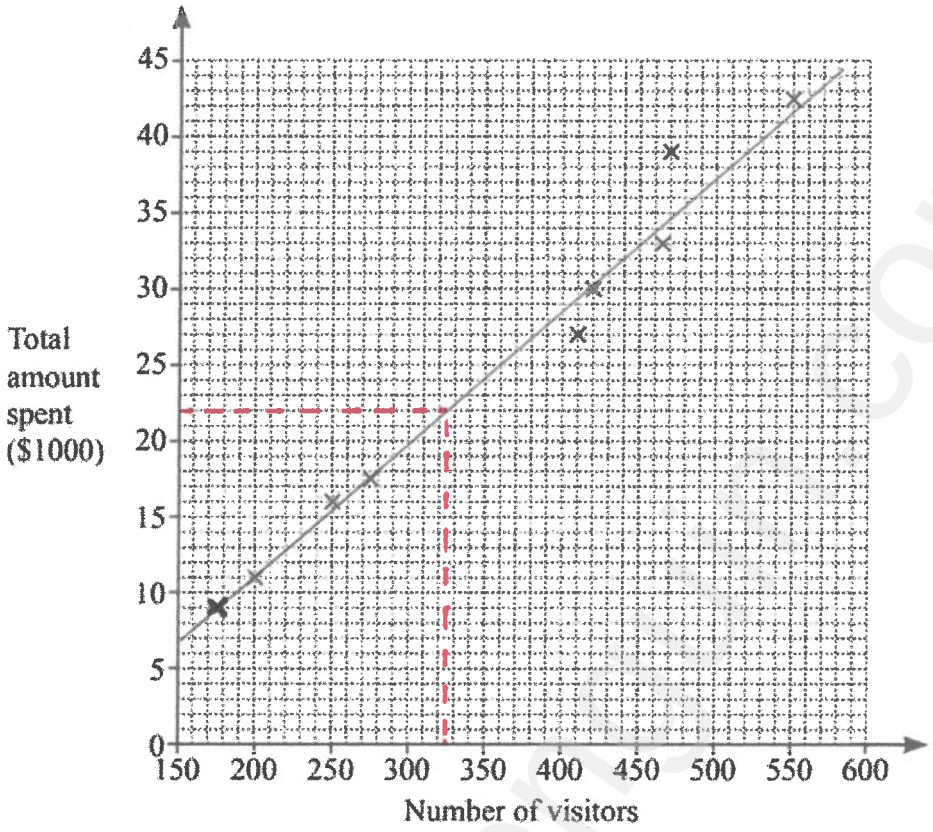
The line in Diagram ..... C ..... is the most appropriate line of best fit. [1]

11 As the temperature increases, people eat more ice cream.

What type of correlation does this statement describe?

..... positive ..... [1]

7 The scatter diagram shows the number of visitors and the total amount spent, in thousands of dollars, at a zoo on each of eight days.



(a) On one of the eight days there are 410 visitors.

Find the total amount spent by visitors during this day.

$ 27000 [1]

(b) Information for the ninth day is shown in the table.

Number of visitors	175
Total amount spent ($1000)	9

Plot this information on the scatter diagram. [1]

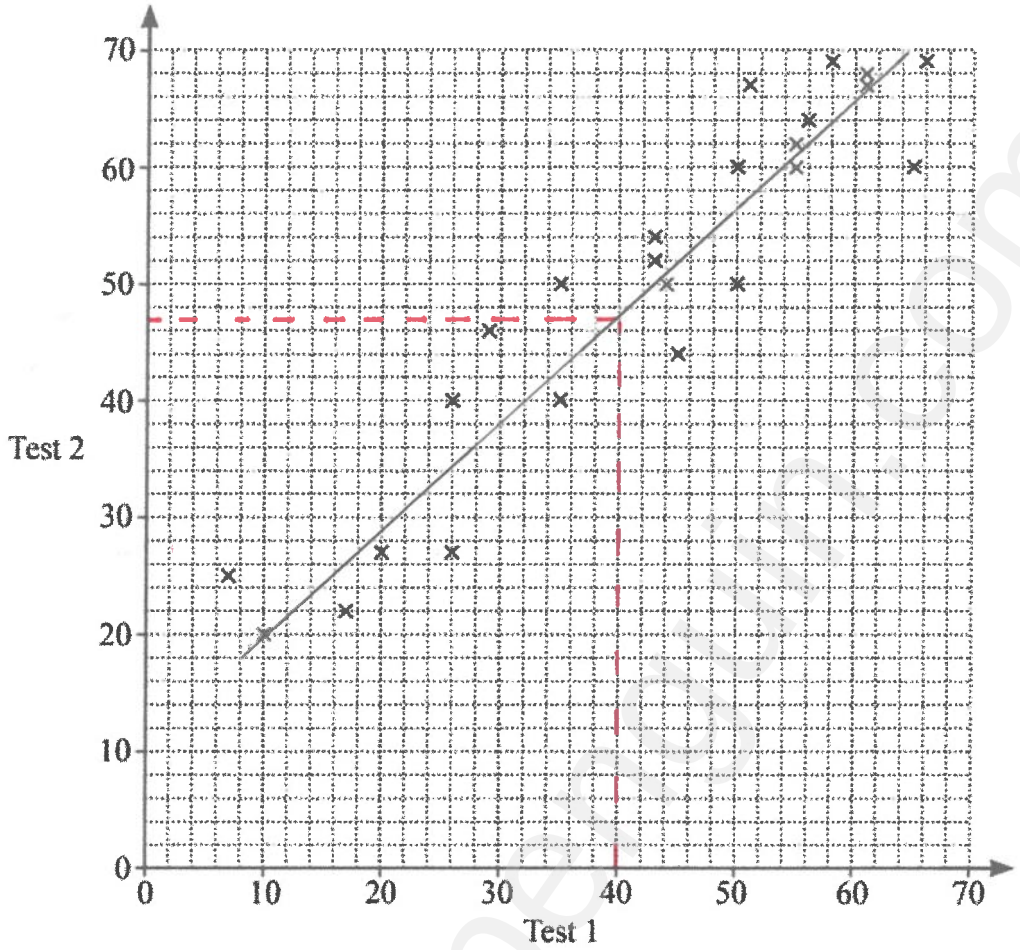
(c) Draw a line of best fit on the scatter diagram. [1]

(d) On the tenth day the total amount spent is $22 000.

Estimate the number of visitors on this day.

325 [1]

3 Mrs Salaman gives her class two mathematics tests.
The scatter diagram shows information about the marks each student scored.



(a) Write down the highest mark scored on test 1.

66 [1]

(b) Write down the type of correlation shown in the scatter diagram.

positive [1]

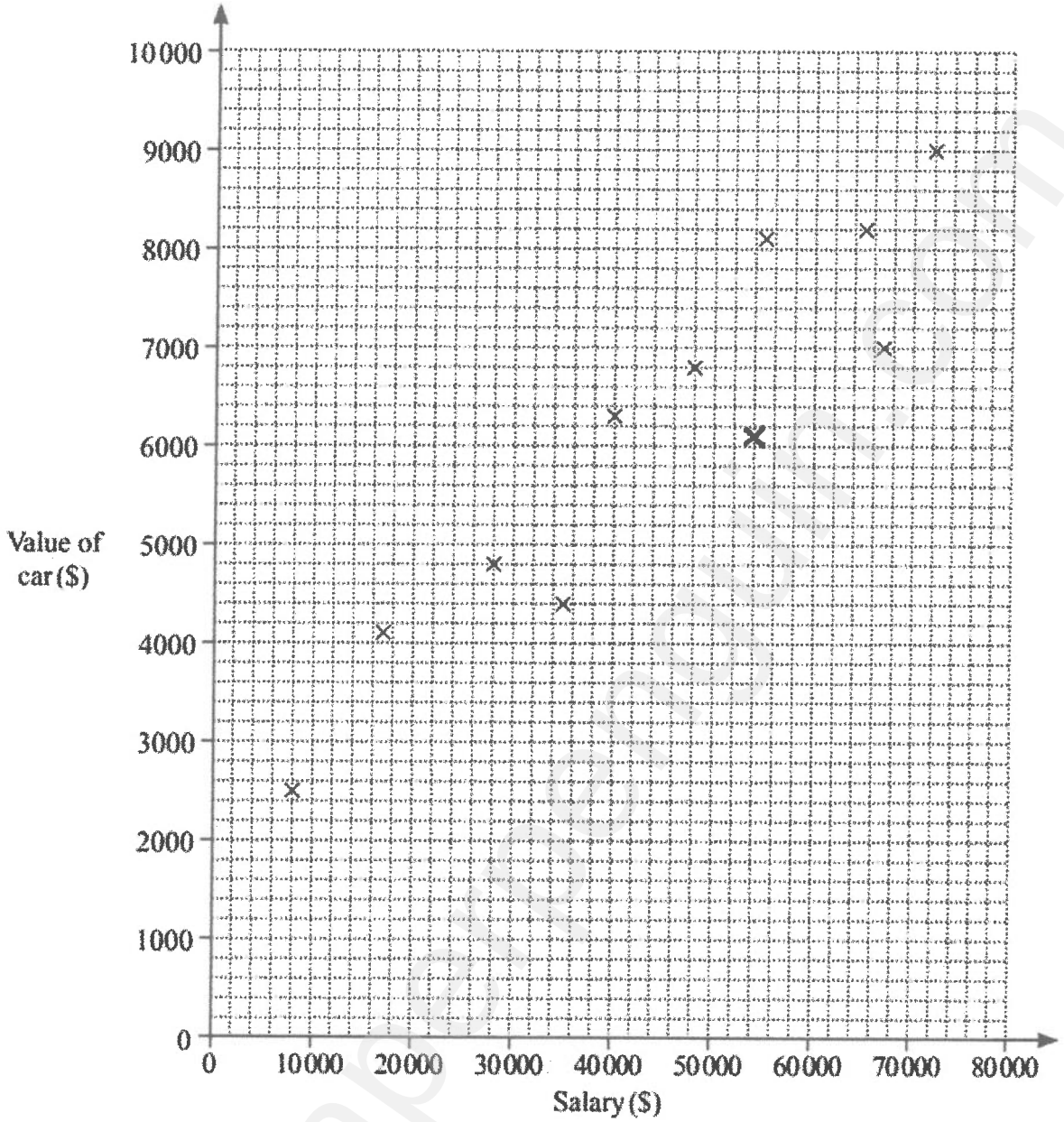
(c) Draw a line of best fit on the scatter diagram. [1]

(d) Hamish scored a mark of 40 on test 1.
He was absent for test 2.

Use your line of best fit to find an estimate for his mark on test 2.

47 [1]

6 For each of 10 people working in an office, the scatter diagram shows their salary and the value of their car.



(a) One of these people has a salary of $28 000.

Find the value of their car.

$ 4800 [1]

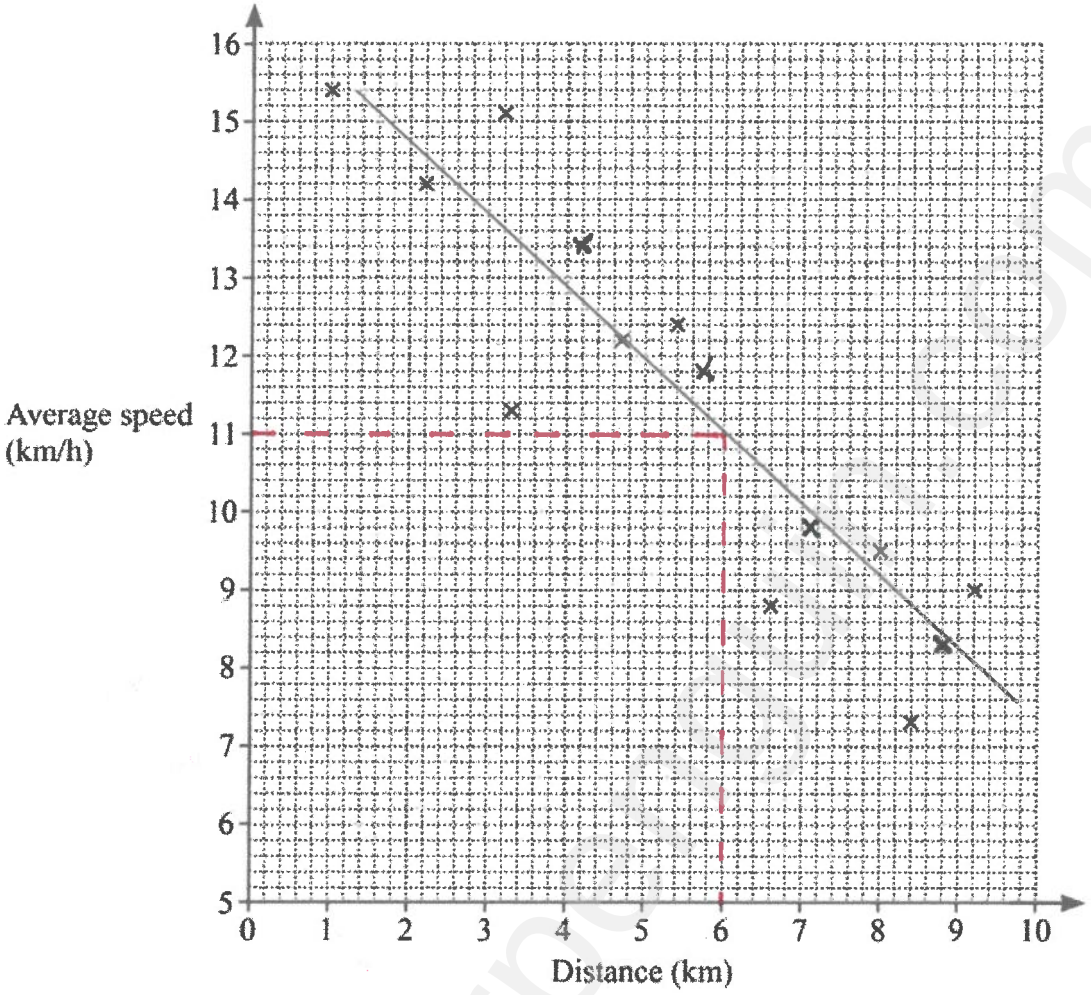
(b) Another person starts to work in the office.
Their salary is $54 000 and the value of their car is $6100.

Plot this information on the scatter diagram. [1]

(c) What type of correlation is shown in the scatter diagram?

positive [1]

4 Aisha records the distance she runs and her average speed.
The results are shown in the scatter diagram.



(a) The table shows the results of four more runs.

Distance (km)	4.2	5.7	7.1	8.8
Average speed (km/h)	13.4	11.8	9.8	8.3

On the scatter diagram, plot these points. [2]

(b) What type of correlation is shown in the scatter diagram?

.....negative..... [1]

(c) On the scatter diagram, draw a line of best fit. [1]

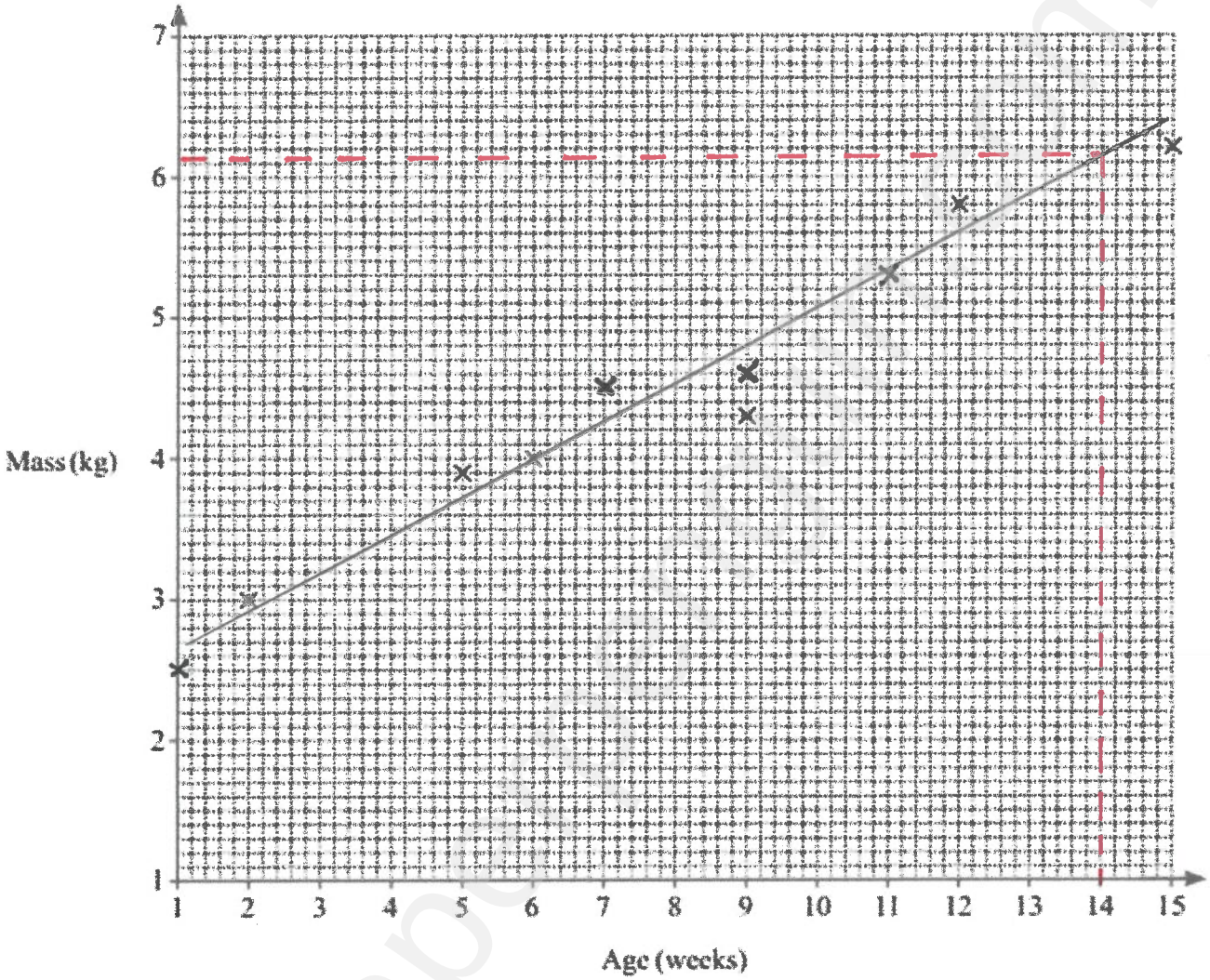
(d) Use your line of best fit to estimate her average speed when she runs a distance of 6 km.

.....11..... km/h [1]

7 The table shows the age and mass of each of 10 babies.

Age (weeks)	9	12	15	2	5	6	9	7	1	11
Mass (kg)	4.3	5.8	6.2	3.0	3.9	4.0	4.6	4.5	2.5	5.3

(a)



Complete the scatter diagram.
The first six points have been plotted for you. [2]

(b) What type of correlation is shown in the scatter diagram?

positive [1]

(c) On the scatter diagram, draw a line of best fit. [1]

(d) Use your line of best fit to find an estimate of the mass of a 14-week old baby.

6·15 kg [1]