Name: _____

GCSE (1 – 9)

Scatter Graphs

Instructions

- Use **black** ink or ball-point pen.
- Answer all Questions.
- Answer the Questions in the spaces provided
  – *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

- The marks for each Question are shown in brackets
  – *use this as a guide as to how much time to spend on each Question.*

Advice

- Read each Question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every Question.
- Check your answers if you have time at the end

1   The scatter graph shows the scores of 15 students on their Biology and Physics tests.
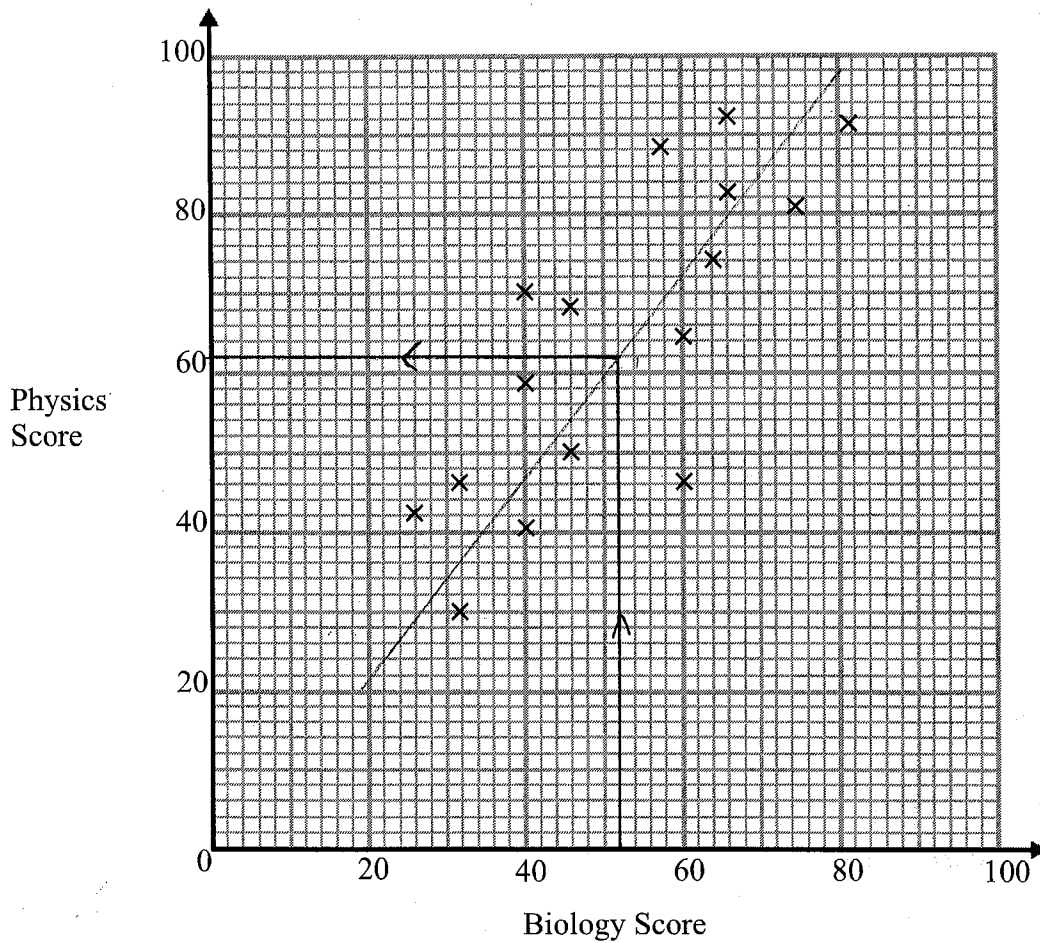
(a) What type of correlation does the scatter graph show?

...... positive ....

(1)

(b) Another students scored 52 marks on their Biology test.
     Estimate the Physics score for this student.
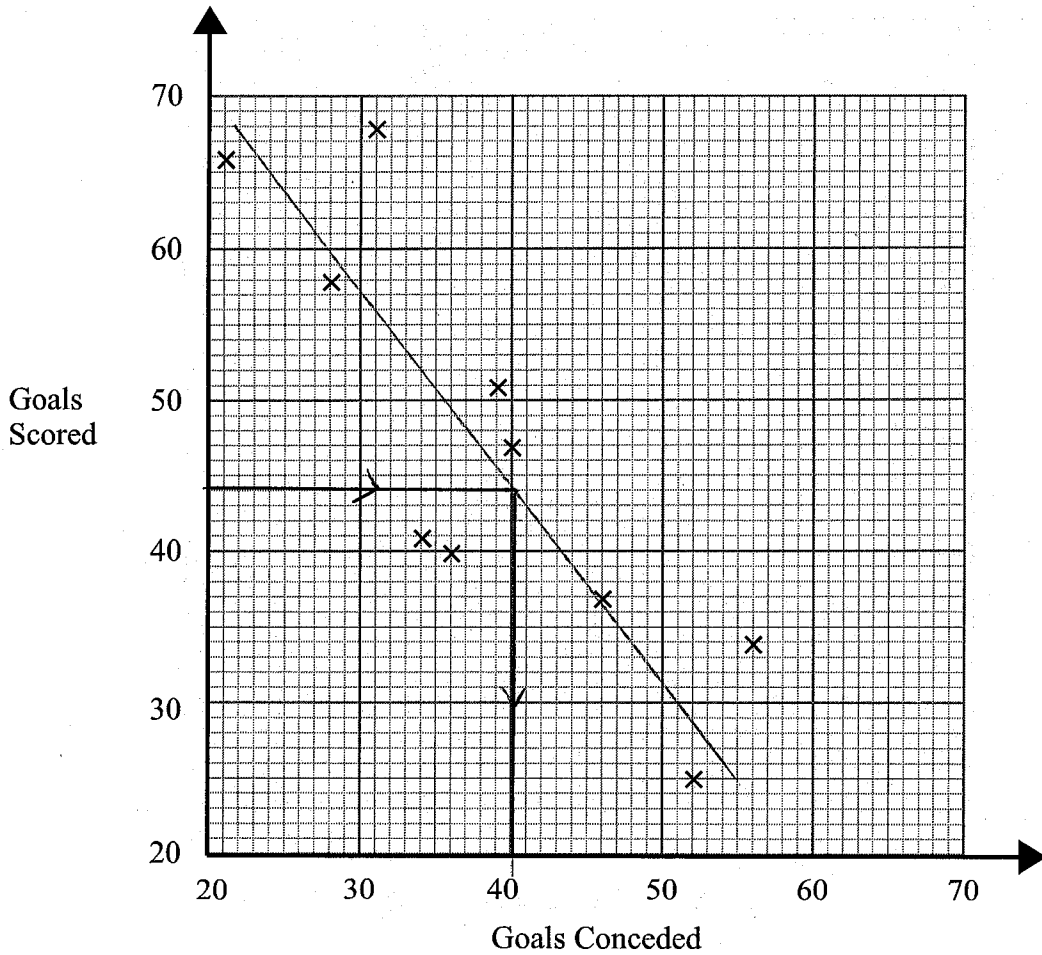
.... 62 ....

(2)

(Total for question 1 is 3 marks)

[58 - 66]

2   Gary recorded how many goals 10 football teams scored.
He also recorded how many goals they conceded

The information is shown on the scatter graph.

(a) What type of correlation does the scatter graph show?

..........*negative*..........
(1)

(b) Another team have scored 44 goals.

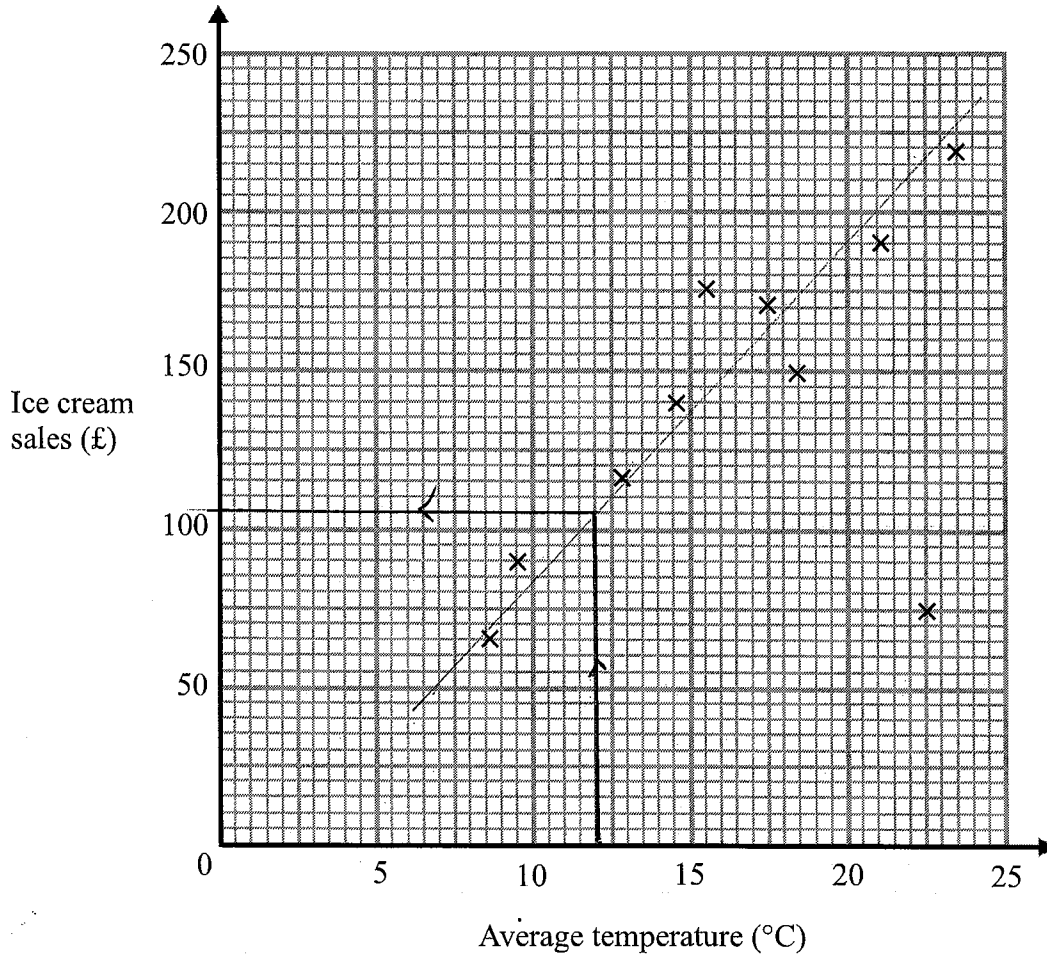Estimate the number of goals this team has conceded.

..........40..........
(2)

(Total for question 2 is 3 marks)

[39 -42]

3   The average daytime temperature for 10 days is recorded.
A shop also records its ice cream sales for each of the 10 days.

The scatter graph shows this information.

Ice cream sales (£)

Average temperature (°C)

(a) What type of correlation does the scatter graph show?

.......positive.........
(1)

(b) One of the points is an outlier. Write down the coordinates for this point.
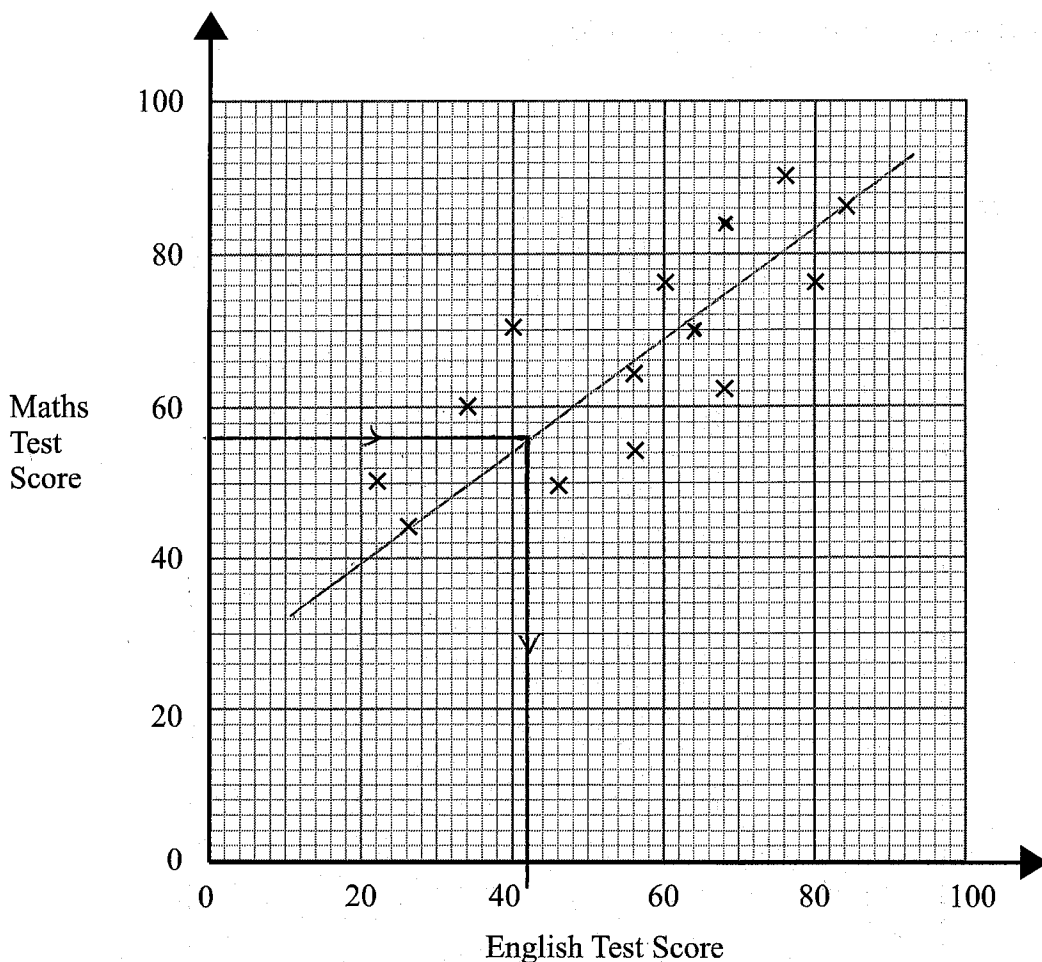
(22.5) , (75)
(1)

(c) On another day the temperature was 12°.
Estimate the ice cream sales on this day.

£.......105...........
100 — 110
(2)

(Total for question 3 is 4 marks)

4   The scatter graph shows information about the test scores of some students in Maths and English.

English Test Score

The table shows the test scores of two more students.

Maths Test Score	70	84
English Test Score	64	68

(a) Show this information on the scatter graph.

(1)

Another student scored 56 on the maths test.

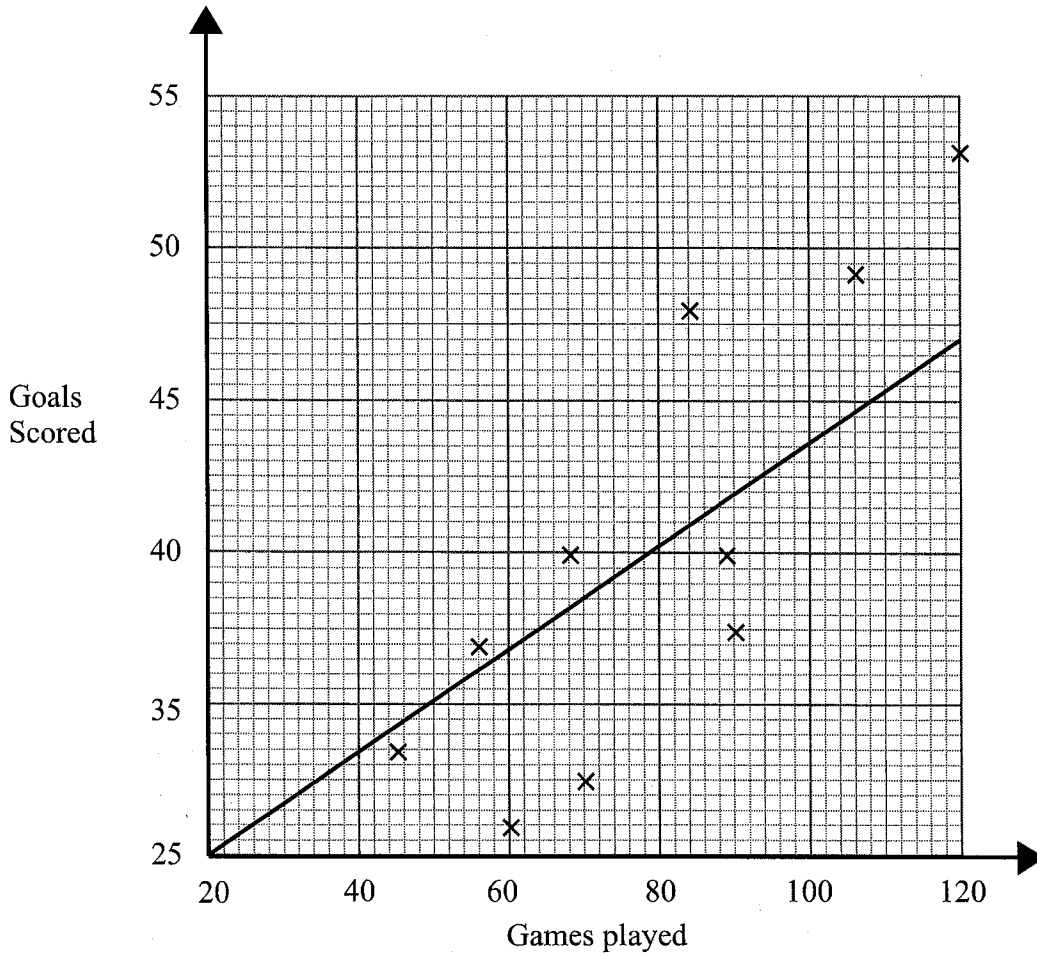(b) Use the scatter graph to estimate this student's score on the English test.

42

....

[37 – 43]   (2)

(Total for question 4 is 3 marks)

5 Wayne has data about the number of goals 10 football players had scored and the number of games they had played.

He was asked to display the data on a scatter graph.
Here is his answer.

Wayne has plotted the points accurately.

Write down two things that are wrong with his answer.

1   *Scale on y-axis is not linear*

2   *the line of best fit does not fit the correlation*

(Total for question 5 is 2 marks)

6 The scatter graph shows information about the test scores of some students in Maths and the number of hours they spend watching TV a day.
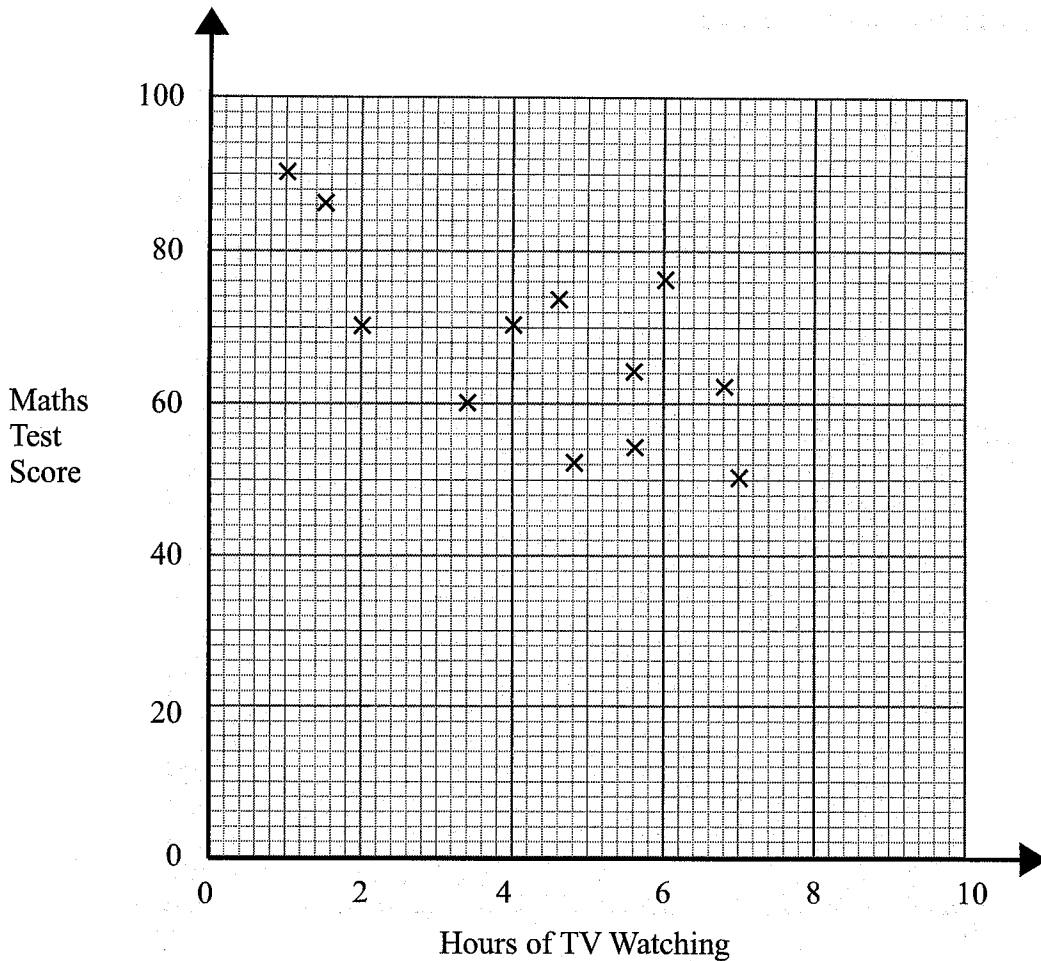
(a) What type of correlation does the scatter graph show?

_____negative_____

(1)

Billy says,
"If I reduce the amount of TV I watch my Maths test score will improve."

(b) Comment on what Billy says.

Just because Billy watchs less TV it does not mean his score will improve. (He would probably need to revise more) Correlation does not mean causation.

(1)

(Total for question 6 is 3 marks)

7 The average daytime temperature for 10 days is recorded.
A shop also records its ice cream sales for each of the 10 days.

The scatter graph shows this information.
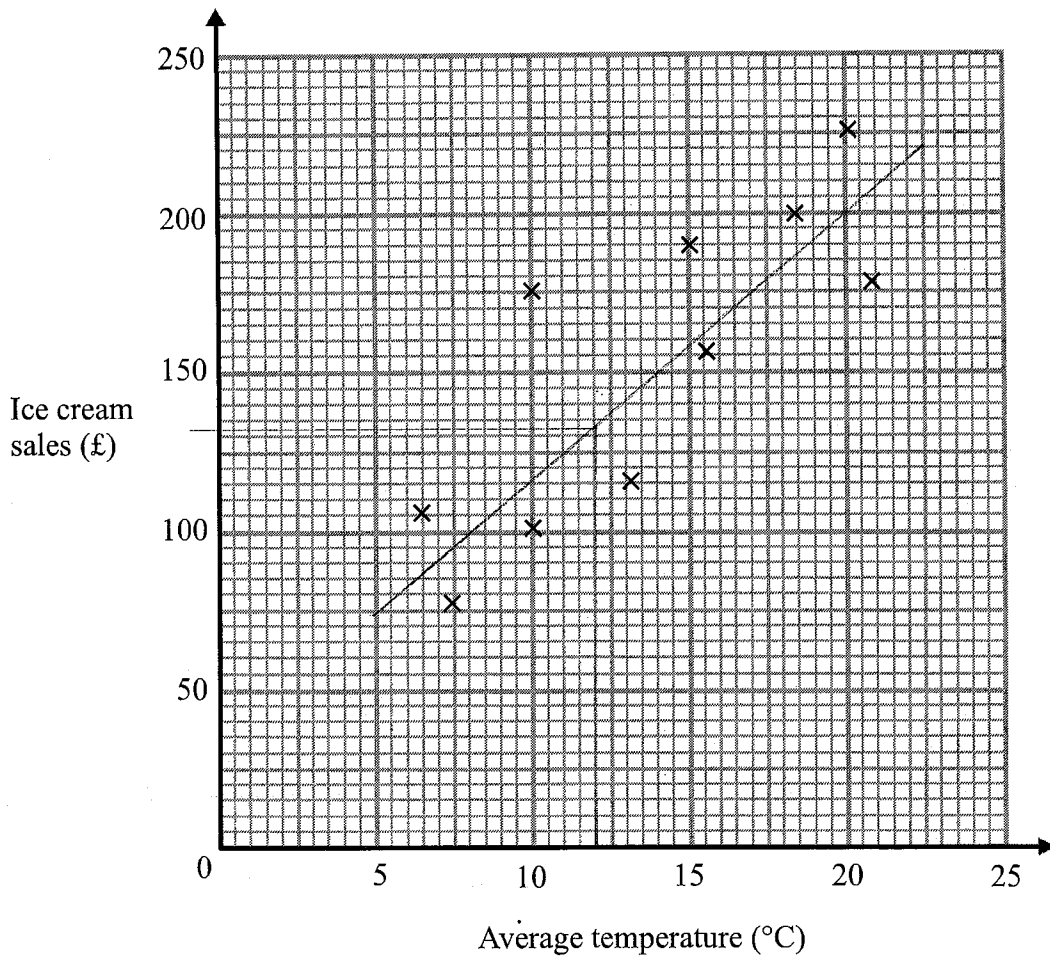
(a) What type of correlation does the scatter graph show?

........................positive........................
(1)

(b) On the 11th day the temperature was 12°.
Estimate the ice cream sales on the 11th day.

........................£132........................
(125 - 145) (2)

(c) The shop's manager wants to use the scatter graph to predict the ice cream sales for a day with an average temperature of 2°. Comment on the reliability of this prediction.

...It would not be a reliable prediction 2° is...
...out of the range of data...

(1)

(Total for question 7 is 5 marks)