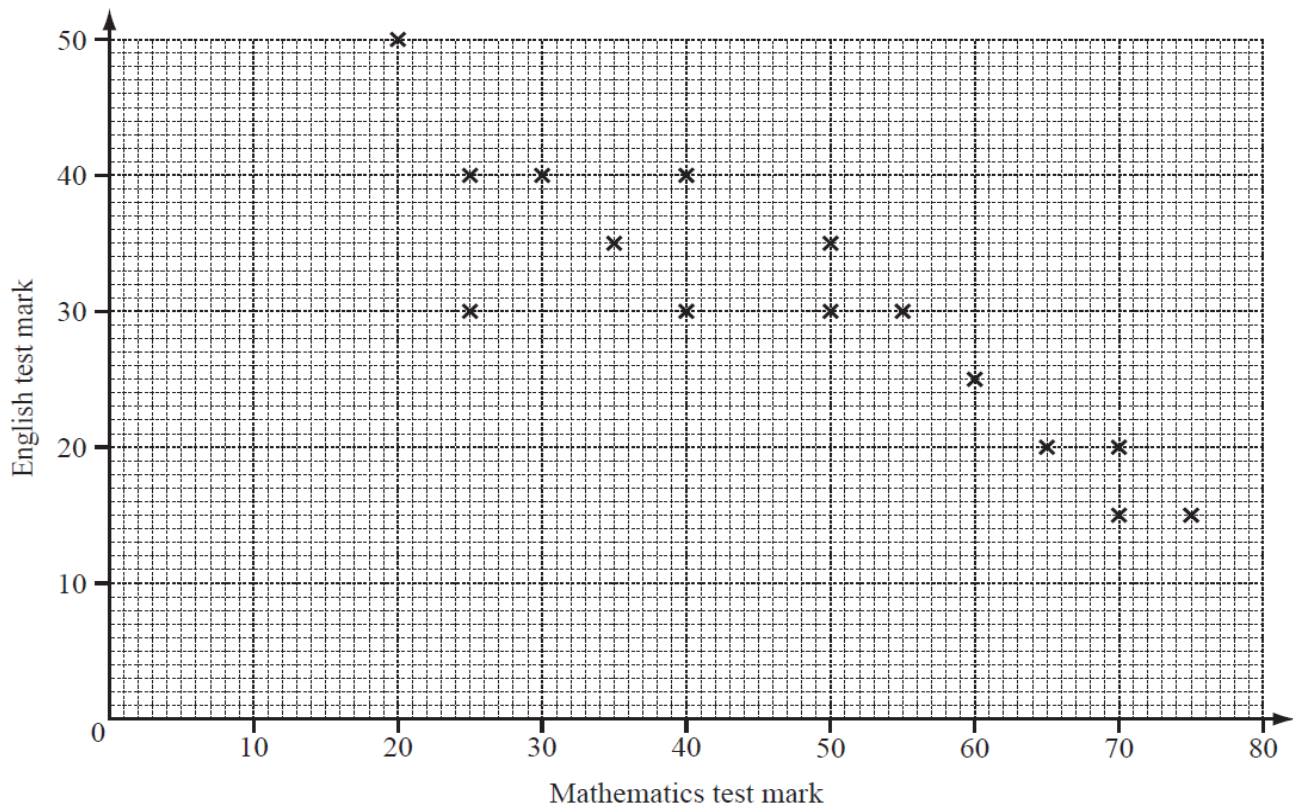# Correlation

Question Paper

The scatter diagram shows the marks obtained in a Mathematics test and the marks obtained in an English test by 15 students.

(a) Describe the correlation. [1]

(b) The mean for the Mathematics test is 47.3 .
The mean for the English test is 30.3 .

Plot the mean point (47.3, 30.3) on the scatter diagram above. [1]

(c) (i) Draw the line of best fit on the diagram above. [1]

(ii) One student missed the English test.
She received 45 marks in the Mathematics test.

Use your line to estimate the mark she might have gained in the English test. [1]
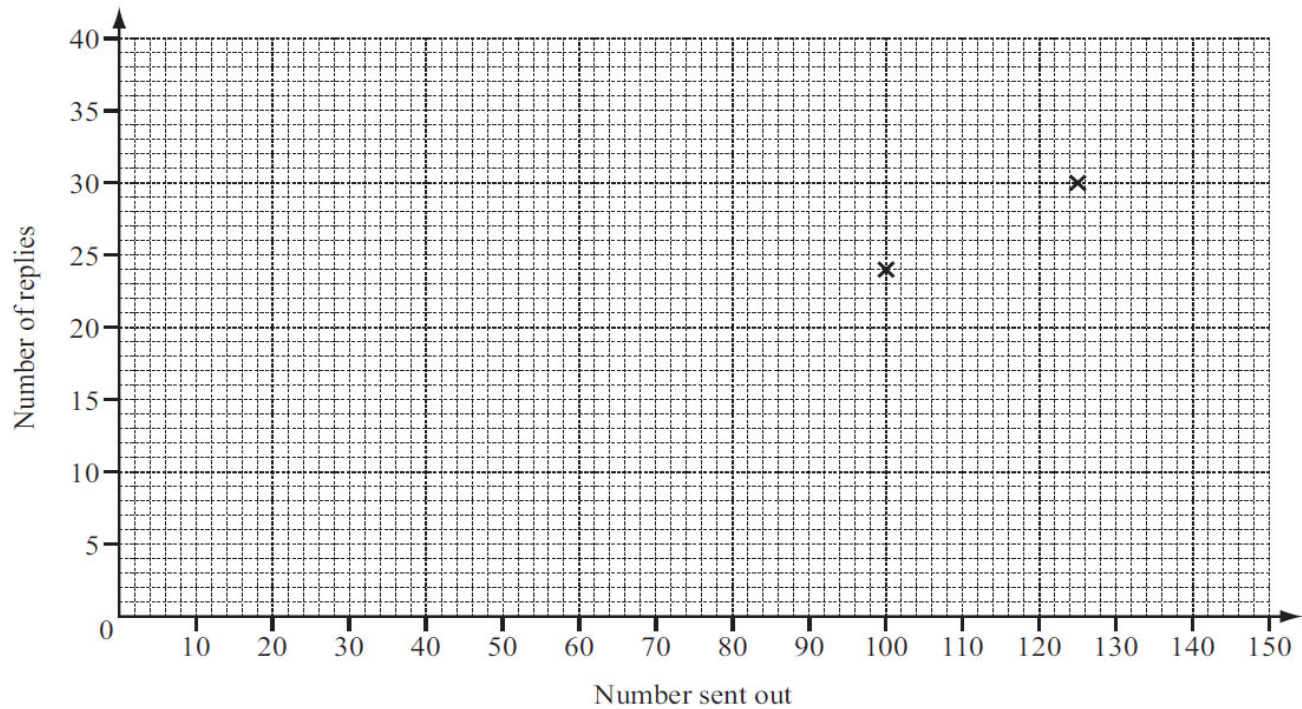
A company sends out ten different questionnaires to its customers.
The table shows the number sent and replies received for each questionnaire.

Questionnaire	A	B	C	D	E	F	G	H	I	J
Number sent out	100	125	150	140	70	105	100	90	120	130
Number of replies	24	30	35	34	15	25	22	21	30	31

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

(b) Describe the correlation between the two sets of data.

[1]

(c) Draw the line of best fit. [1]

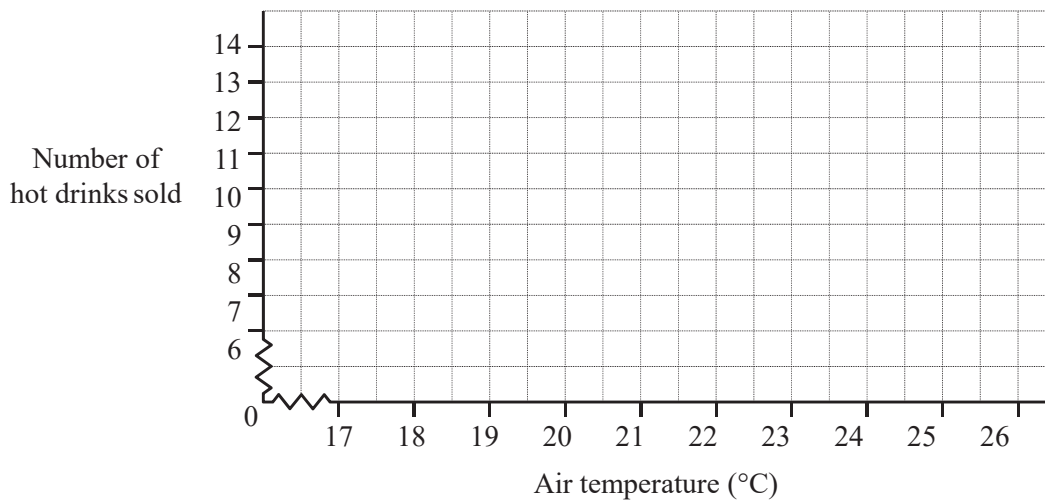The owner of a small café records the average air temperature and the number of hot drinks he sells each day for a week.

Air temperature (°C)	18	23	19	23	24	25	20
Number of hot drinks sold	12	8	13	10	9	7	12

(a) On the grid, draw a scatter diagram to show this information. [2]

(b) What type of correlation does your scatter diagram show? [1]

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