

1. In an experiment, a ball was dropped from various heights, measured in metres, onto a table. The height to which the ball bounced above the table was measured in centimetres. The results were as shown in the table.

Height of drop (m)	0.25	0.50	0.70	1.10	1.25	1.60
Height of bounce (cm)	14	20	29	50	59	74



The scatter diagram displays these results.

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

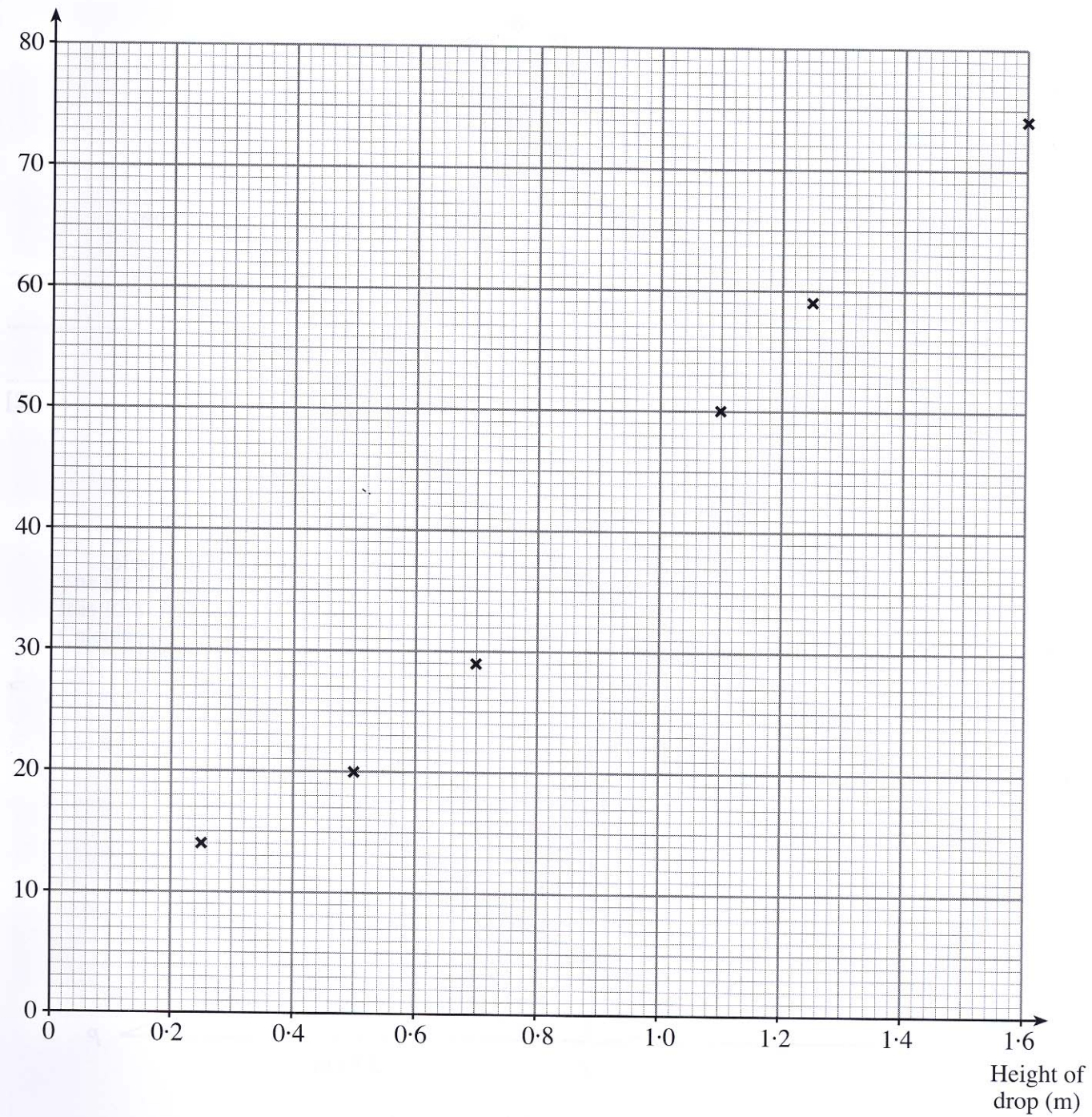
[1]

- (b) The mean of the heights from which the ball was dropped is 0.9 m and the mean of the heights of the bounces is 41 cm. Draw a line of best fit on the scatter diagram.

[1]

Height of
bounce (cm)

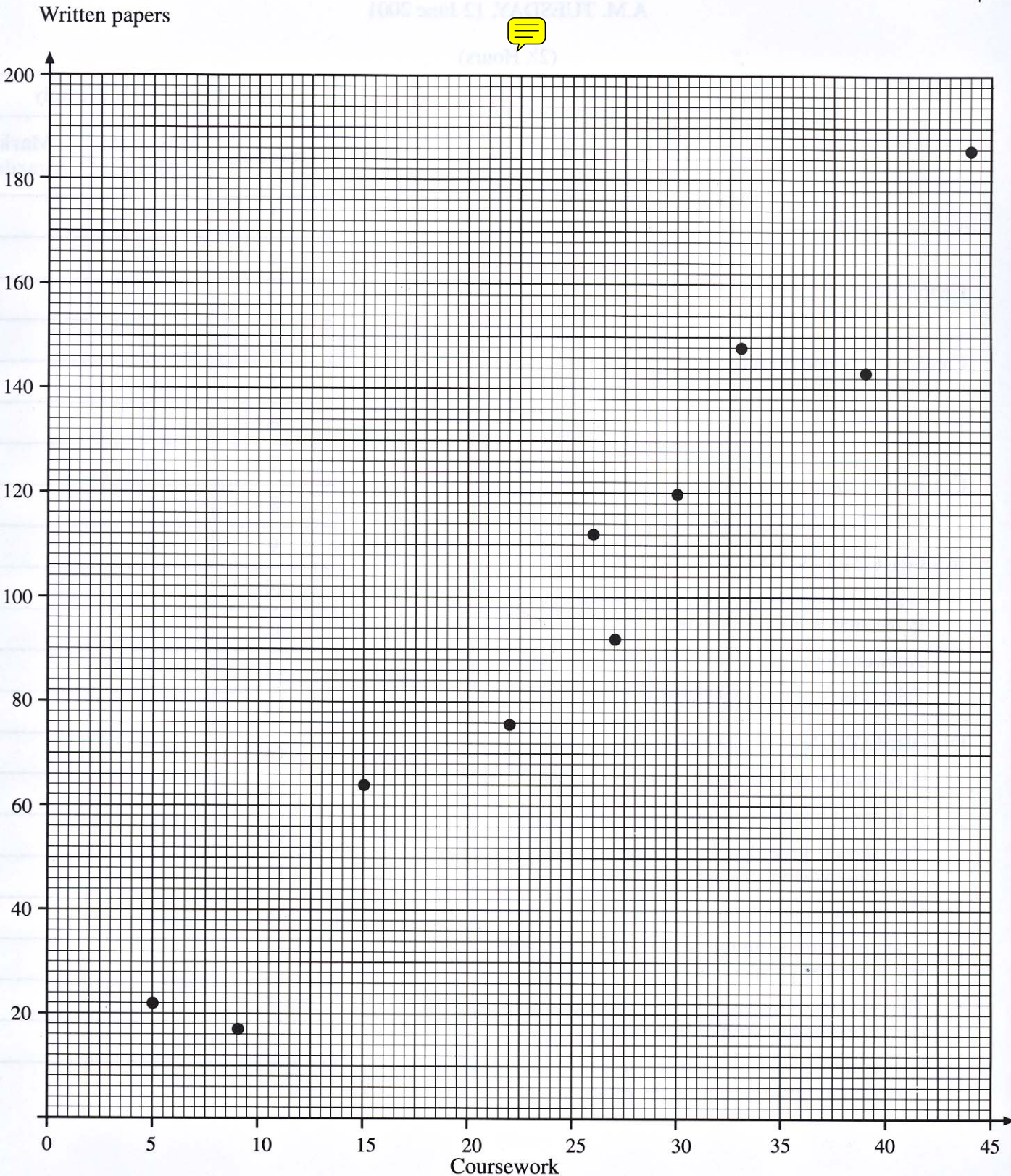
For use with question 1.



1. The assessment for a mathematics examination consists of two parts, namely, coursework marked out of 50, and written papers, marked out of 200. The marks for ten pupils are given in the table.

Coursework mark	5	30	15	44	9	22	39	26	33	27
Written papers mark	22	120	64	186	17	76	143	112	148	92

The scatter diagram below displays these results.



- (a) The mean coursework mark for the pupils is 25 and the mean mark of the written papers is 98.

Draw a line of best fit on your scatter diagram.

[2]

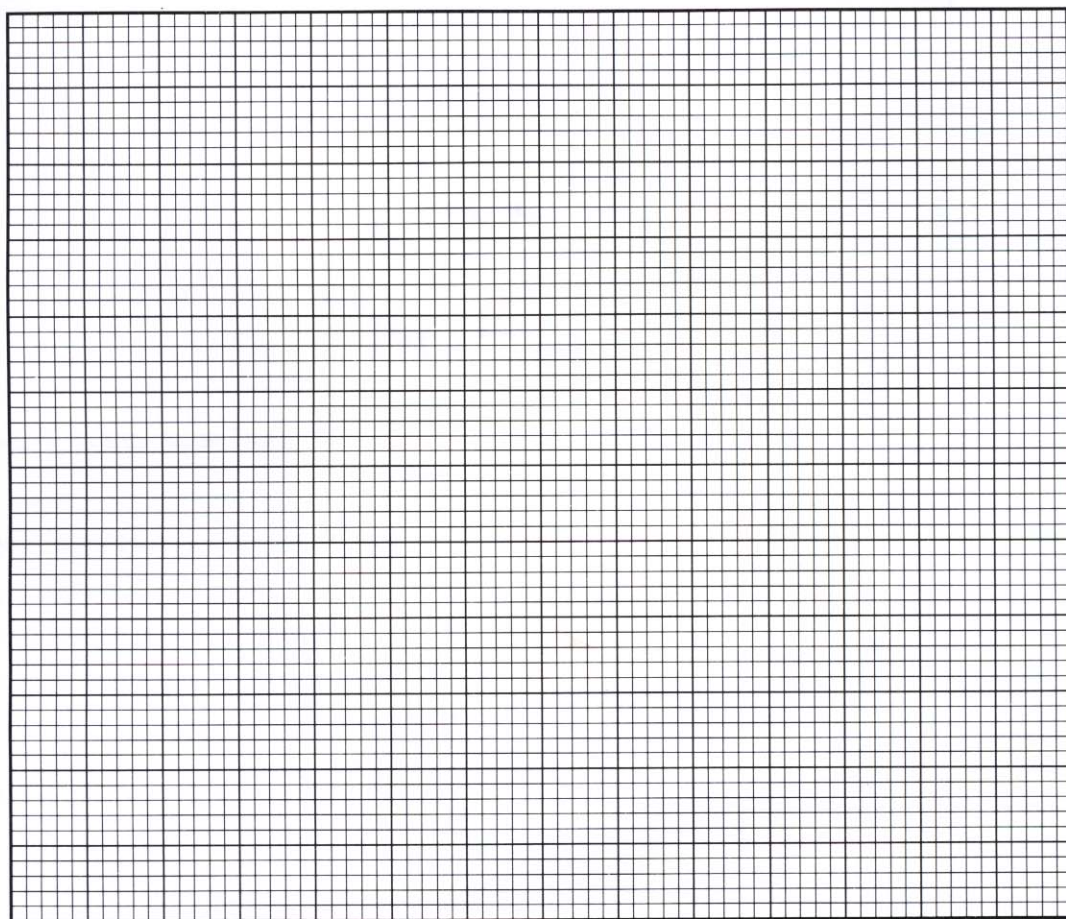
- (b) Another pupil completed the coursework and was given a mark of 19, but was absent from the written papers examination. Use your line of best fit to estimate the mark on the written papers for this pupil.

[1]


25. The data in the table was recorded during an experiment. Results were recorded for two variables x and y .

x	1	2	3	4
y	11.5	21.9	50.4	105.9

- (a) On the graph paper plot the values of y against the values of x^3 .



[2]

- (b) Before starting the experiment it was already known that y is approximately equal to $px^3 + q$.
Use your graph to estimate p and q . 

[3]