Question:

A training manager wondered whether the length of time his trainees revised for an examination had any effect on the marks they scored in the examination.

Before the exam, he asked a random sample of them to honestly estimate how long, to the nearest hour, they had spent revising. After the examination he investigated the relationship between the two variables.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Trainee | A | B | C | D | E | F | G | H | I | J |
| Revision time | 4 | 9 | 10 | 14 | 4 | 7 | 12 | 22 | 1 | 17 |
| Exam mark | 31 | 58 | 65 | 73 | 37 | 44 | 60 | 91 | 21 | 84 |

a) Plot the scatter diagram in order to inspect the data.

b) Calculate the correlation coefficient.

c) Calculate the regression model to fit the data.

d) Plot the regression line on the scatter diagram.

e) Calculate the R2.

f) Predict the examination mark for a trainee who revises for 15 hours.

g) Predict the examination mark for a trainee who revises for 35 hours.

h) Do you have any reservations about your answer to (g)?