

**Question 3**

Six friends make a pact and challenge each other to do their best on their upcoming Further Maths Examination. In the final month before the exam, they spend different amounts of time studying and achieve varying results.

Name	Alan	Beatrice	Cassie	Darvesh	Elim	Francesca
Hours of study	25	18	4	12	35	40
Further Maths result %	70	50	70	80	95	90

- a. Calculate the mean and standard deviation of the number of hours studied (to 1 decimal place).

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2 marks

- b. Draw a scatterplot of the data below, labelling the axes.



2 marks

- c. Calculate the value of Pearson’s product–moment correlation coefficient,  $r$  (to 2 decimal places).

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1 mark

- d. Complete the following sentence.

\_\_\_\_\_ % of the variation in the Further Maths can be explained by a variation in

\_\_\_\_\_.

1 mark