

### Scatter Diagrams

- 1) The scatter graph shows some information about the marks of six students. It shows each student's marks in Maths and Science.

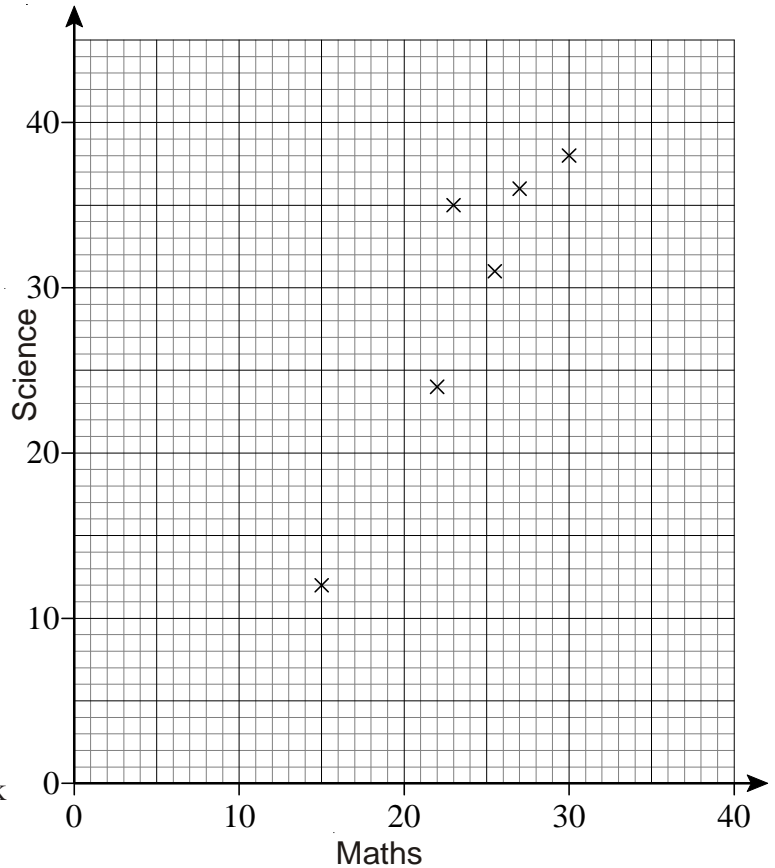
The table below shows the marks for four more students.

Maths	22	8	17	26
Science	30	12	24	24

- On the scatter graph, plot the information from the table.
- Draw a line of best fit.
- Describe the correlation between the marks in Maths and the marks in Science.

Another student has a mark of 18 in Science.

- Use the line of best fit to estimate the mark in Maths of this student.

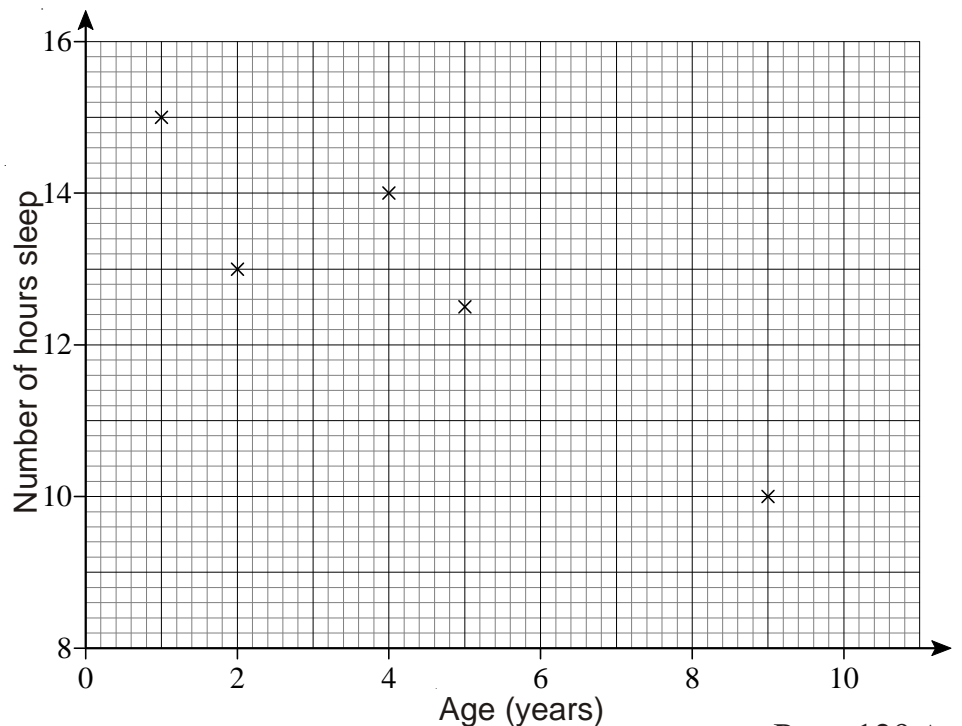


- 2) The table below shows the average daily number of hours sleep of 10 children.

Age (years)	4	2	5	1	9	6	8	7	10	1.5
Number of hours sleep	14	13	12.5	15	10	12.5	10.8	12	11	14

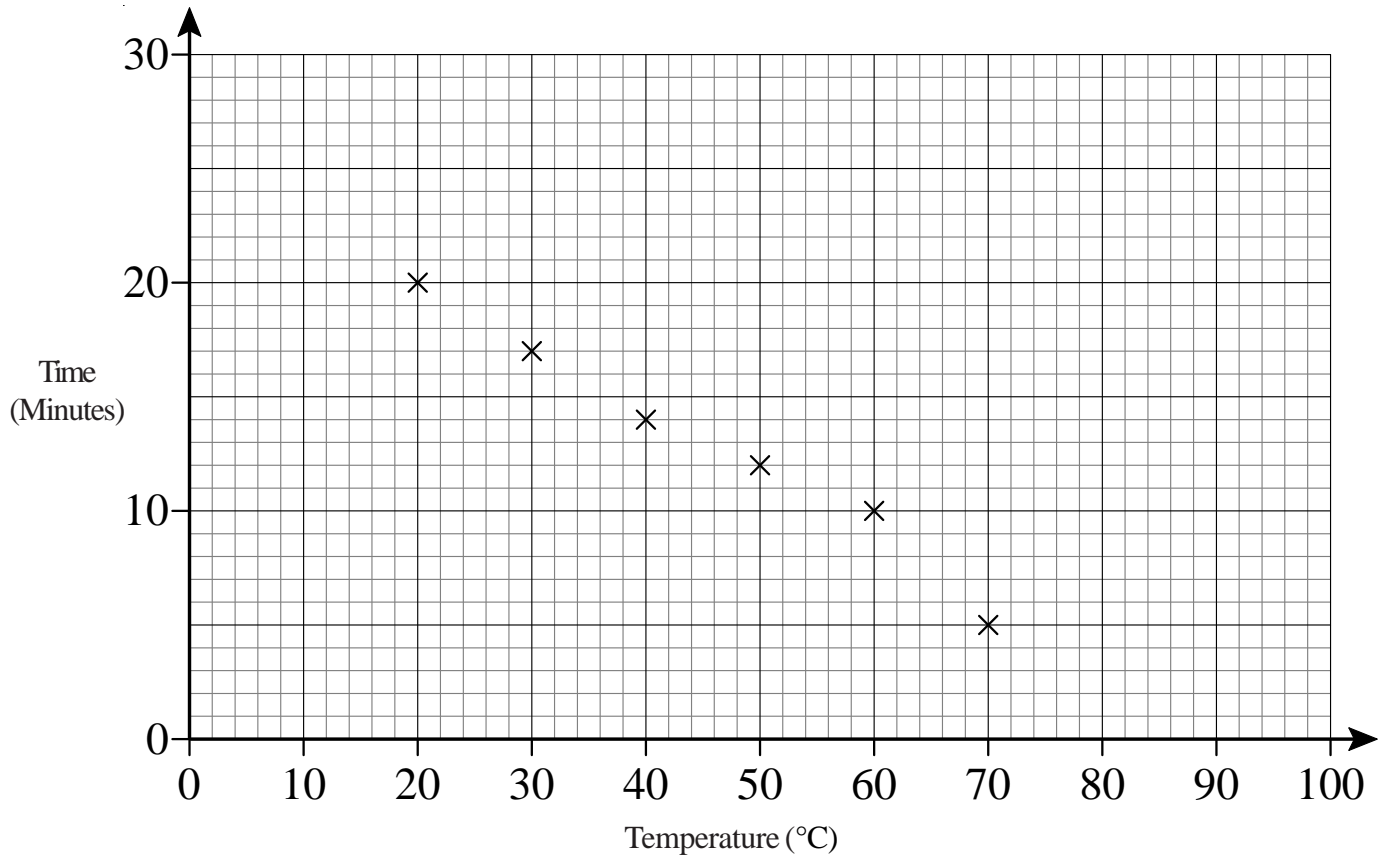
The first five results have been plotted on the scatter diagram.

- Plot the next five points.
- Draw a line of best fit.
- Describe the relationship between the age of the children and their number of hours sleep per day.
- Use your scatter graph to estimate the number of hours sleep for a 3 year old child.



## Scatter Diagrams

- 1) Sue did an experiment to study the times, in minutes, it took 1 cm ice cubes to melt at different temperatures.  
Some information about her results is given in the scatter graph.



The table shows the results from two more experiments.

<b>Temperature (°C)</b>	15	55
<b>Time (Minutes)</b>	21	15

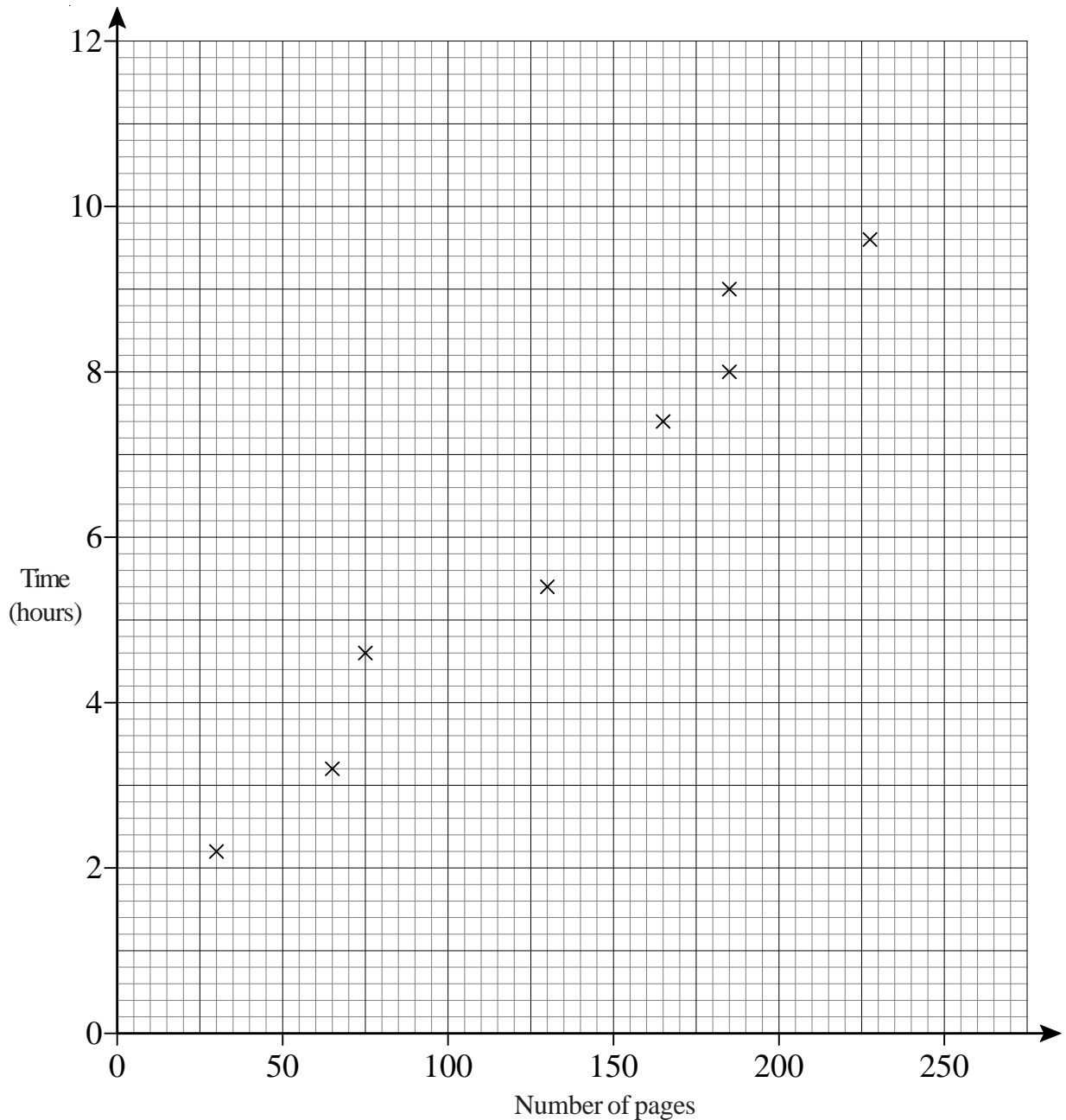
- On the scatter graph, plot the results from the table.
- Describe the relationship between the temperature and the time it takes a 1 cm ice cube to melt.
- Find an estimate for the time it takes a 1 cm ice cube to melt when the temperature is 25 °C.

Sue's data cannot be used to predict how long it will take a 1 cm ice cube to melt when the temperature is 100 °C.

- Explain why.

## Scatter Diagrams

- 1) Henry reads eight books.  
For each book he recorded the number of pages and the time he took to read it.  
The scatter graph shows information about his results.



- a) Describe the relationship between the number of pages in a book and the time Henry takes to read it.

Henry reads another book.

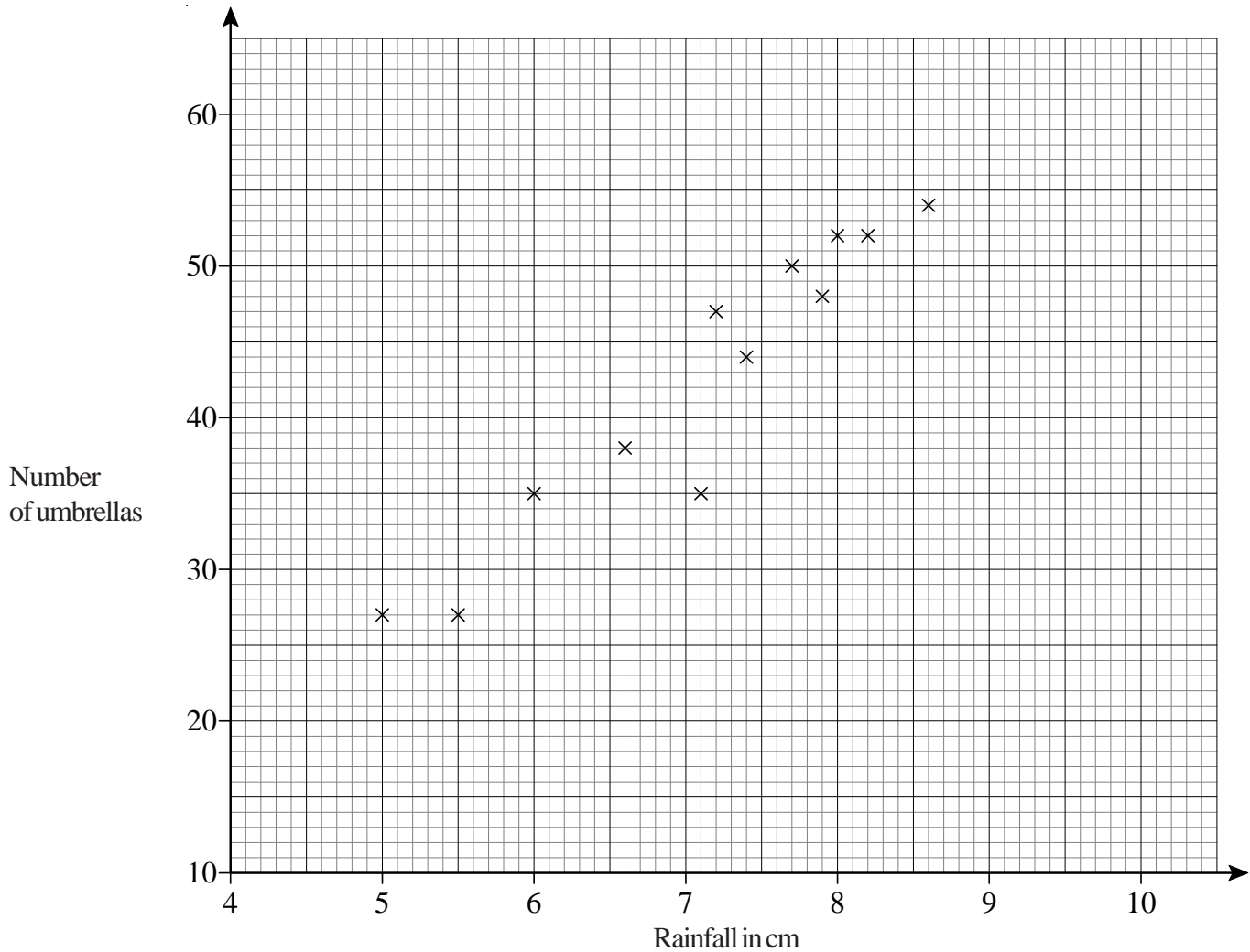
The book has 150 pages.

- b) Estimate the time it takes Henry to read it.

## Scatter Diagrams

1) Mr Jones sells umbrellas.

The scatter graph shows some information about the number of umbrellas he sold and the rainfall, in cm, each month last year.



In January of this year, the rainfall was 6.2 cm.

During January, Mr Jones sold 32 umbrellas.

- Show this information on the scatter graph.
- What type of correlation does this scatter graph show?

In February of this year, Mr Jones sold 40 umbrellas.

- Estimate the rainfall for February.