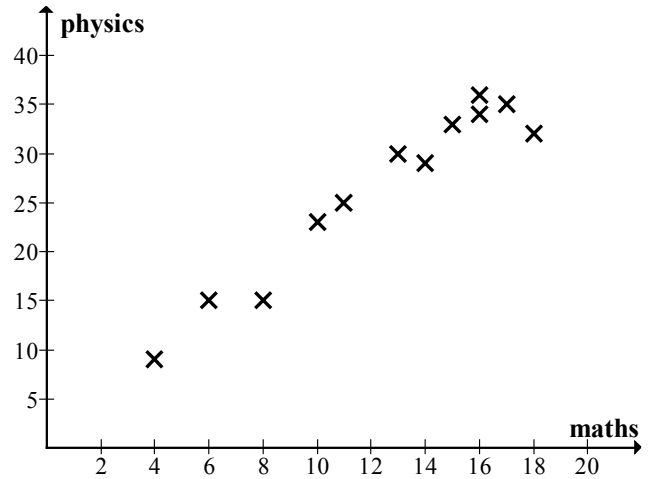


Scattergraphs

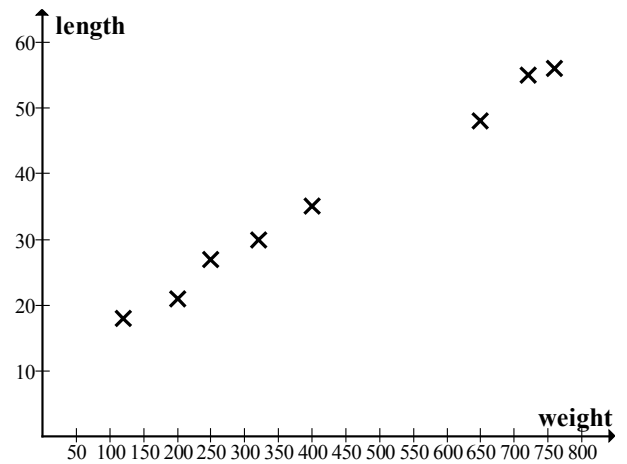
1. The scattergraph opposite shows the marks obtained by 12 pupils in maths and physics tests.

- (a) Describe the relationship between the results in maths and physics.
- (b) On the diagram, draw a line of best fit.
- (c) Amanda scored 20 in maths. Use your line estimate her physics mark.



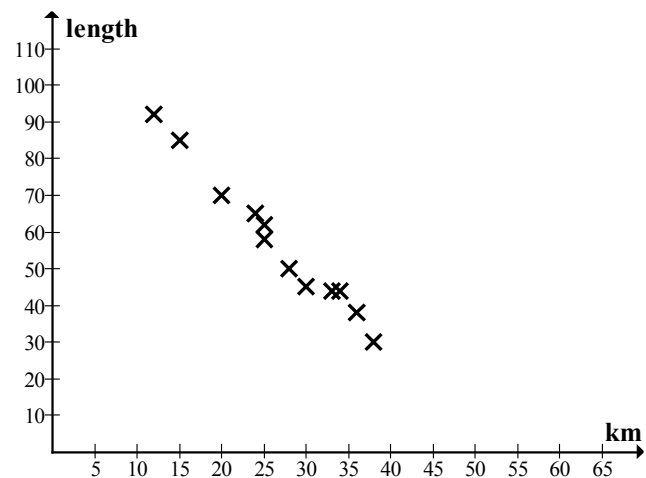
2. The weights and lengths of 8 baby snakes are given in the diagram opposite.

- (a) Describe the relation between weight and length.
- (b) On the diagram, draw a line of best fit.
- (c) Use your line to predict the length of a snake which is 500 grams in weight.



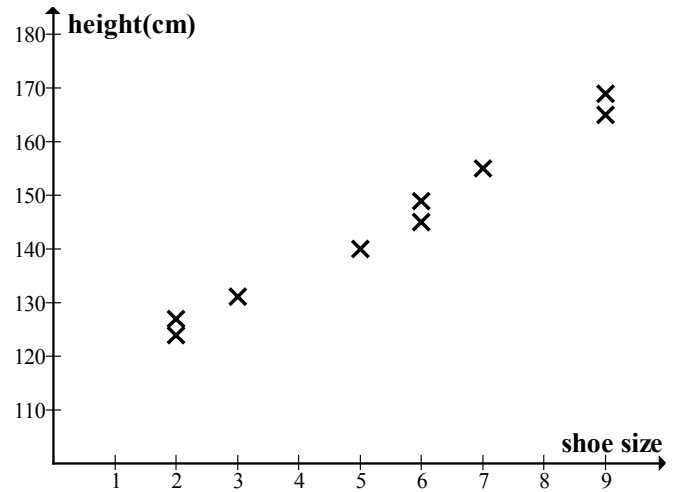
3. The scattergraph shows the lengths walked by different walkers in a day.

- (a) Describe the relation between the length walked and the number of walkers.
- (b) On the diagram, draw a line of best fit.
- (c) Estimate the number of walkers who covered 40 kilometres.



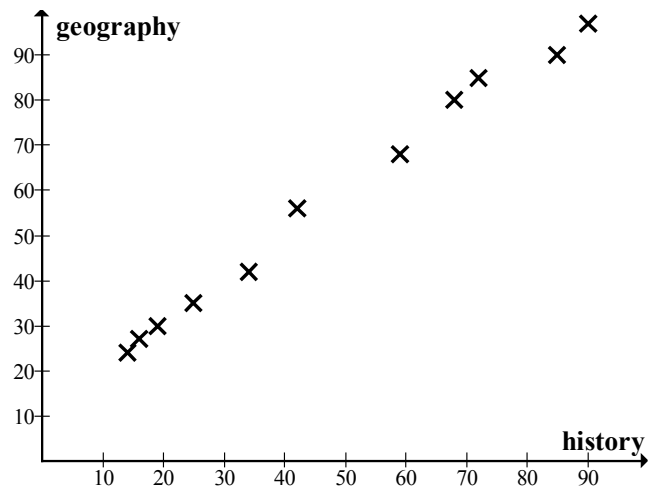
4. The diagram shows shoe size and the height of 10 pupils.

- Describe the relation between shoe size and height.
- On the diagram, draw a line of best fit.
- Use your line of best fit to predict the height of someone with shoe size 8.



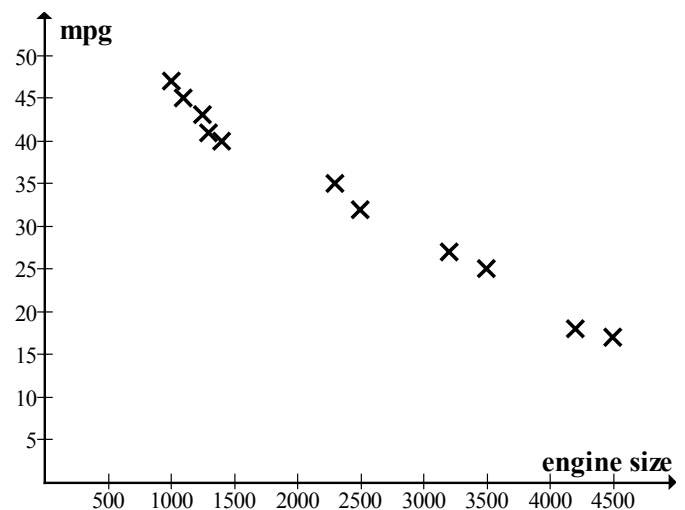
5. The diagram shows the marks of pupils in history and geography exams.

- Describe the relation between the marks.
- On the diagram, draw a line of best fit.
- John scored 50 in history. Use your line to estimate his geography mark.



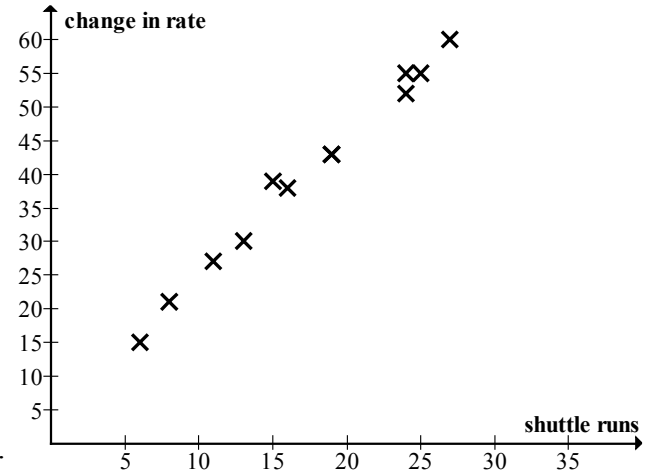
6. The diagram shows the miles per gallon achieved by cars of different engine size.

- Describe the relation between miles per gallon and engine size.
- On the diagram, draw a line of best fit.
- Use your line to estimate the number of miles per gallon achieved by an engine of 1750cc.



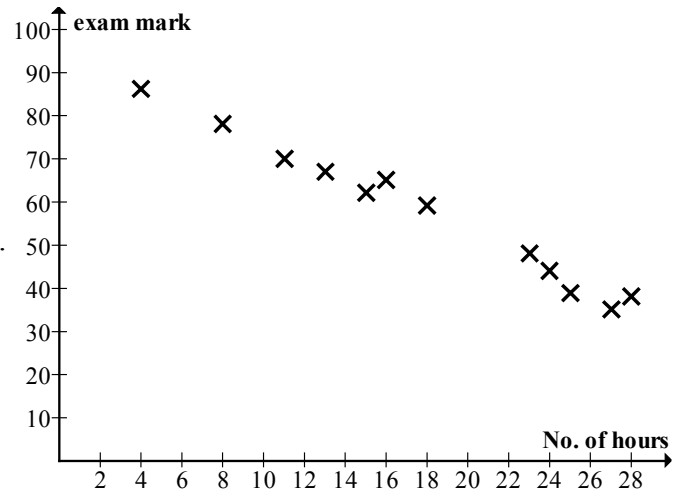
7. A group of pupils are being tested on how their heart rate changes in relation to the number of shuttle runs they do.
The diagram opposite shows the results.

- Describe the relation between the number of shuttle runs and change in heart rate.
- Draw a line of best fit on the diagram.
- Use your line to estimate the change in heart rate of a pupil who completes 22 shuttle runs.



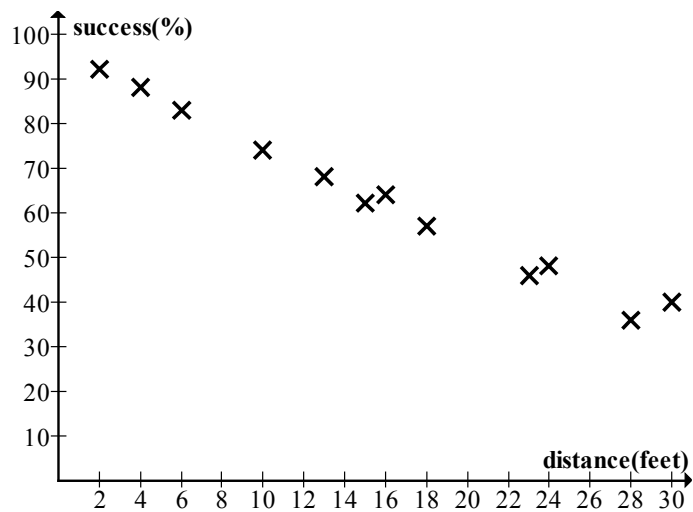
8. The diagram opposite shows the average examination mark of a group of students of equal ability in relation to the time they spend weekly playing computer games.

- Describe the relation between the time spent on a computer and examination mark.
- Draw a line of best fit on your diagram.
- Haseeb spends 5 hours a week playing computer games. Estimate what his examination mark is likely to be.



9. The scatter graph opposite shows the success of a basketball player in scoring baskets from different distances on court.

- Draw a line of best fit on the diagram.
- Use your line to estimate the success rate in scoring baskets from a distance of 20 feet.



10. The table below shows the marks of 12 pupils in a class test and in the final examination.

Class test	25	27	34	18	23	11	28	38	16	20	14	26
Final exam	52	60	70	40	45	27	61	80	40	45	33	60

- Show this information on a scattergraph.
- On your diagram draw a line of best fit.
- Niruz scored 35 in the class test. Use your line to estimate her mark in the final exam.

11. The table below shows the ice cream sales in a café and the temperature at the time of the sales.

Temperature ($^{\circ}\text{C}$)	14	21	24	18	28	27	20	16	22	11
Number of ice creams	25	37	46	33	55	52	38	26	39	15

- Show this information on a scattergraph.
- Describe the relation between temperature and ice cream sales.
- On your diagram draw a line of best fit.
- One day the temperature was 25°C . Use your line to estimate the number of ice creams sold that day.

12. A gardener records the number of greenfly in his garden over a period of weeks during the summer months.. The table below shows the results.

Week	1	2	3	4	5	6	7	8	9	10	11	12
No. of greenfly	25	34	38	42	44	47	48	52	56		58	59

- Show this information on a scattergraph.
- On your diagram draw a line of best fit.
- In week 10 the gardener forgot to record the number of greenfly. Use your line to estimate the number of greenfly that week.

13. The table below shows the value of a car and its age.

Age of car(years)	1	2	3	4	5	6	7	8	9
Value (£ thousands)	11	9.5	9.1	8	7.5	7.2	6.5		5.8

- Show this information on a scattergraph.
- On your diagram draw a line of best fit.
- Describe the relation between age and value.
- Use your line to estimate the value of the car when it is 8 years old.

14. The table below shows the average cost of a weekly break to Paris over the last 10 years.

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cost(£)	430	470	510	520	580	610	650		720	750

- Show this information on a scattergraph.
- On your diagram draw a line of best fit.
- Use your line to estimate the cost of a weekly break in Paris in 2010.