Scatter Graphs

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Workout

*There are templates for Question 1 and Apply Questions 1, 2, 3, 4 at the end of this exercise

Question 1: Plot the following information as scatter graphs

(a)

Maths score	9	13	6	18	11	4	15	10
Physics score	10	13	5	20	8	5	12	14

(b)

Age, years	4	7	2	4	1	9	3	6
Cost, £	6000	3000	7500	5000	8000	1500	6000	4000

(c)

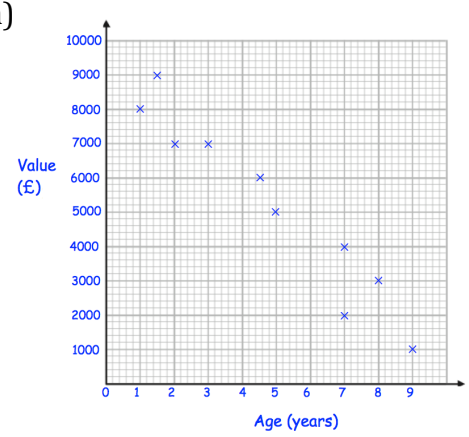
Height, cm	157	160	148	160	177	156	166	170
Weight, kg	53	60	44	53	54	60	54	70

(d)

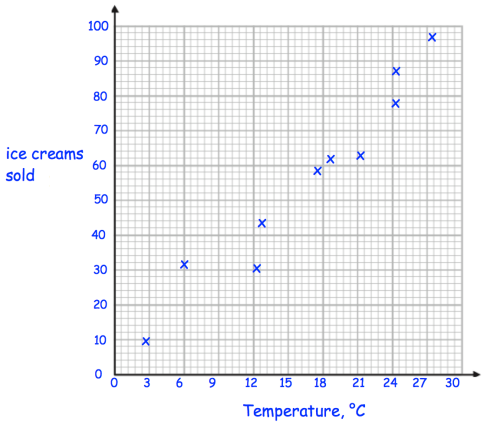
Distance, miles	2.5	0.8	1.2	4.1	2.8	3.3	3.7	1.5
Cost	£3.20	£1.40	£1.80	£4.40	£3.00	£3.60	£4.80	£2.40

Question 2: What type of correlation does each scatter graph show below

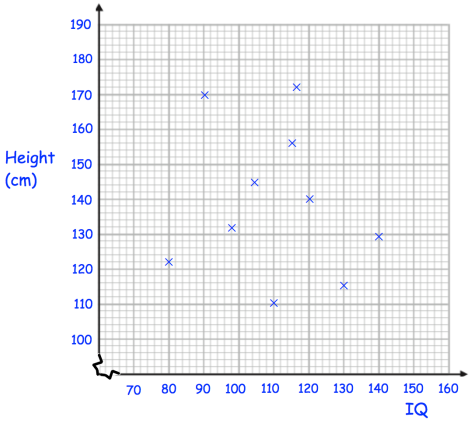
(a)



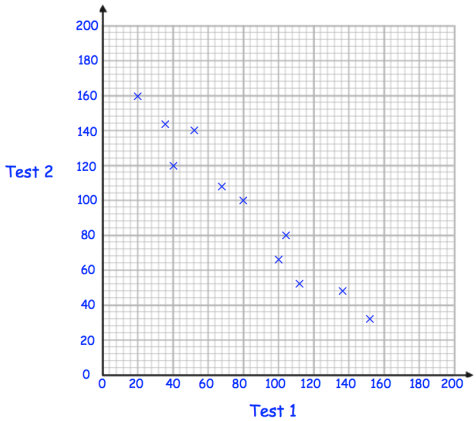
(b)



(c)



(d)



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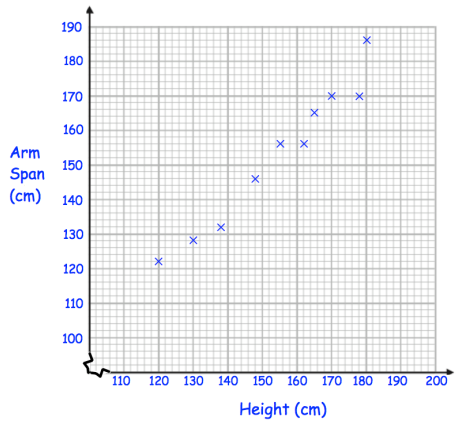
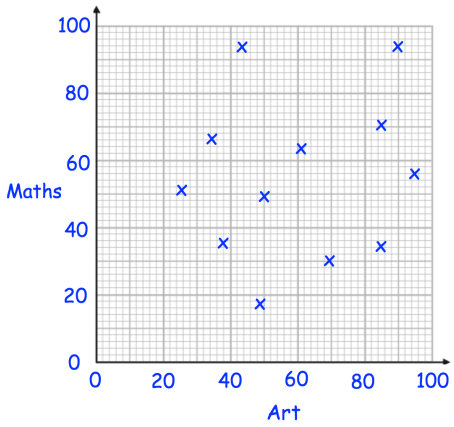
(e)



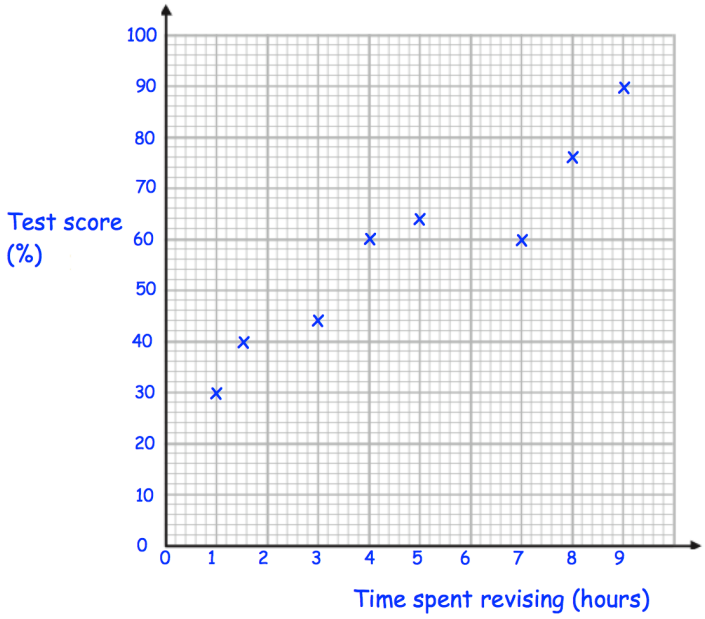
(f)



Question 3: Describe the relationships shown in each scatter graph in Question 2.

Apply

Question 1: The scatter graph below shows information about the number of hours spent revising for a test and the test result for a group of 8 students.



(a) Daisy spent 7 hours revising for the test. What is Daisy's test score?

(b) Harry's test score was 30%. How many hours did Harry spend revising?

(c) Draw a line of best fit.

(d) Another student spent 6 hours revising for the test.
Find an estimate of their test score.

(e) Explain why it might not be sensible to use the scatter graph to estimate the score for a student that spent 15 hours revising.

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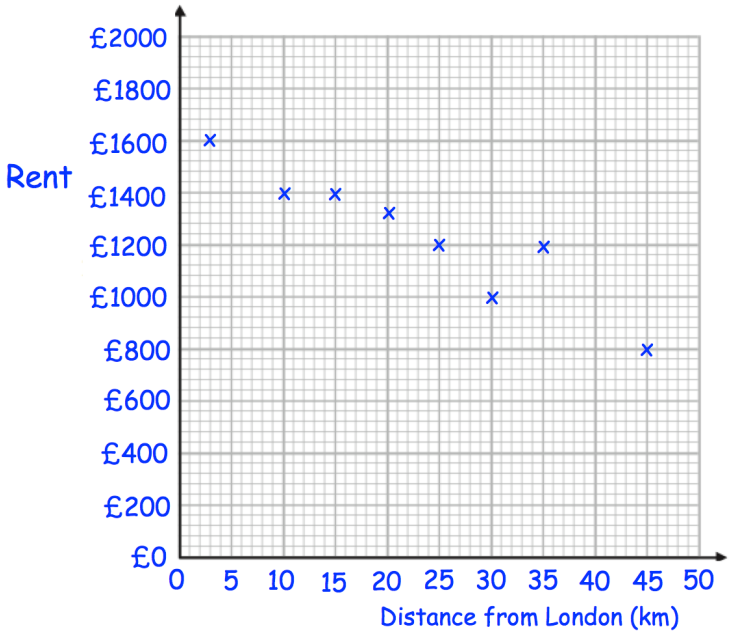
Question 2: The scatter graph shows information about the cost of renting apartments and their distance from London.



(a) Describe the relationship shown in the scatter graph.

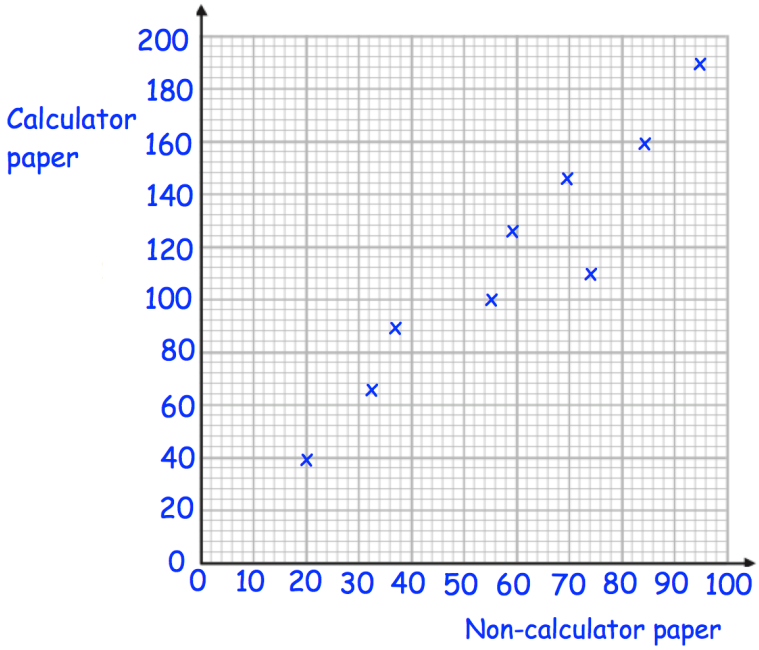
(b) Draw a line of best fit on the diagram.

(c) Estimate the cost of renting an apartment from London.

(d) Victor has £1100 to spend on rent. Estimate how close he could live to London.

(e) Explain why it might not be sensible to use the scatter graph to estimate the price of rent for a property that is 250km from London.

Question 3: The students in a class sit a non-calculator and a calculator maths paper.



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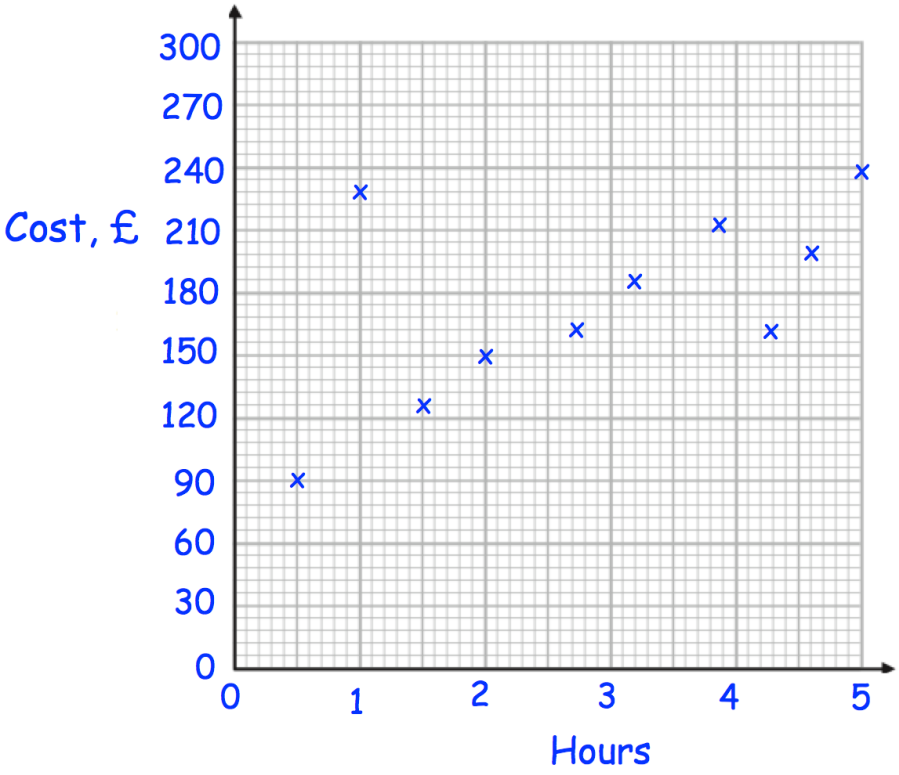
(a) What type of correlation does the scatter graph show?

(b) Draw a line of best fit.

(c) Philip was absent for the calculator paper, but he scored 80 in the non-calculator paper.
Use your line of best fit to predict his calculator paper score.

(d) Neil was absent for the non-calculator paper, but he scored 60 in the calculator paper.
Use your line of best fit to predict his non-calculator paper score.

Question 4: Mr Hughes is a plumber.
The scatter graph shows the cost and the length of his last 10 jobs.



(a) Draw a line of best fit

(b) For one job Mr Hughes needed to replace an expensive part that he fitted quickly.
How long did that job last?

(c) Estimate the cost of a job lasting 3.5 hours.

(d) A job costs £120, estimate the length of the job.

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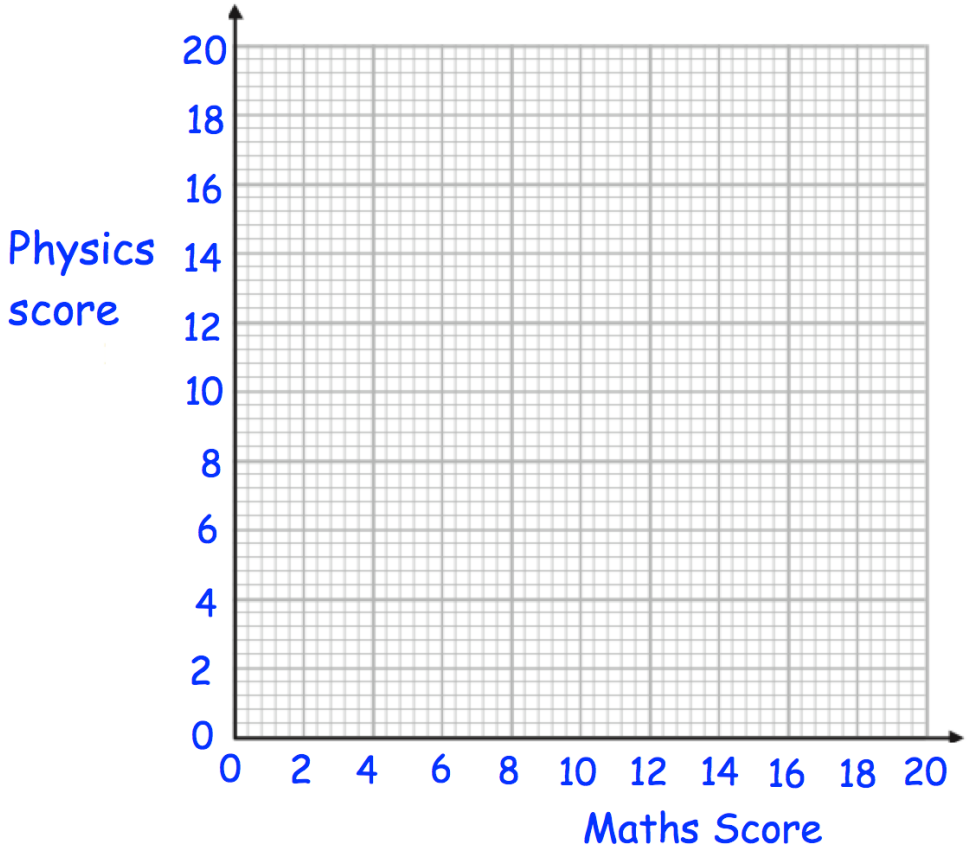
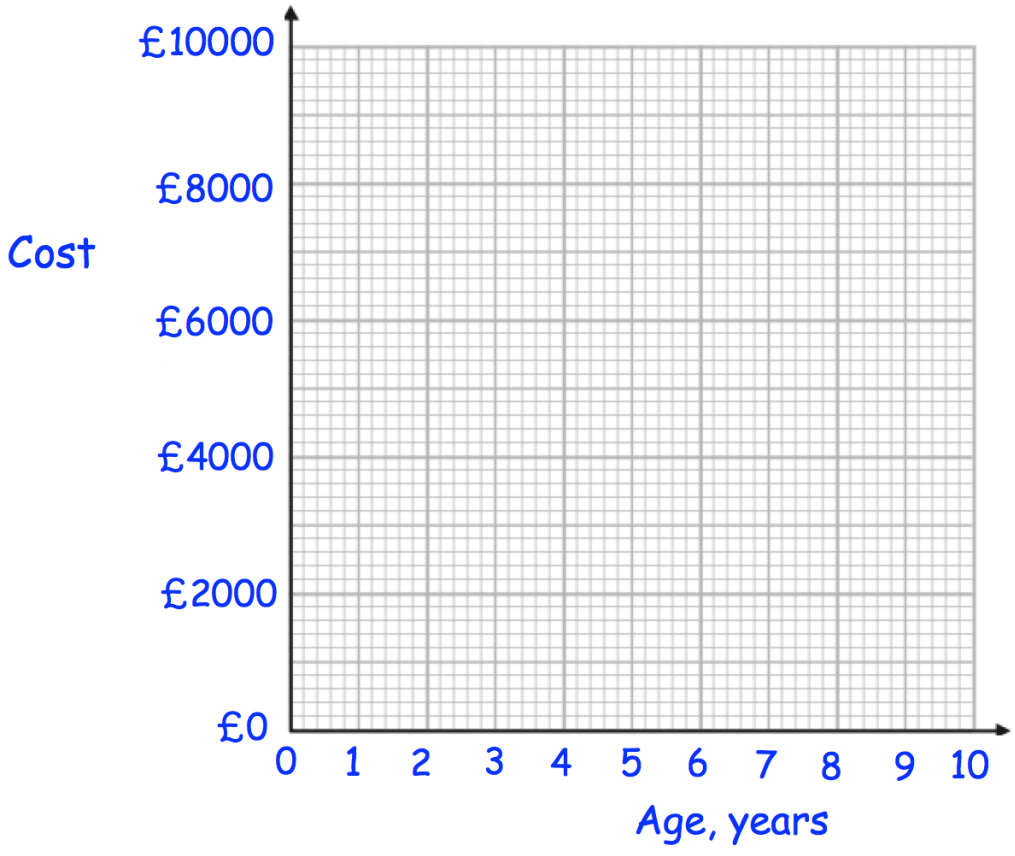
Templates

Question 1(a)



Question 1(b)



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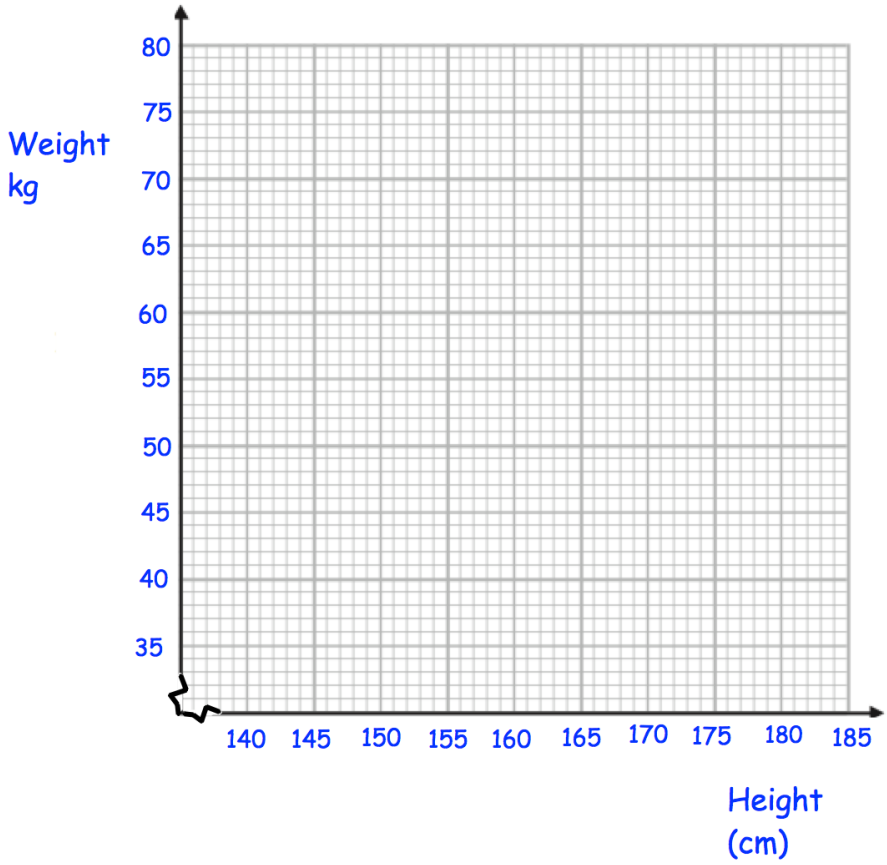
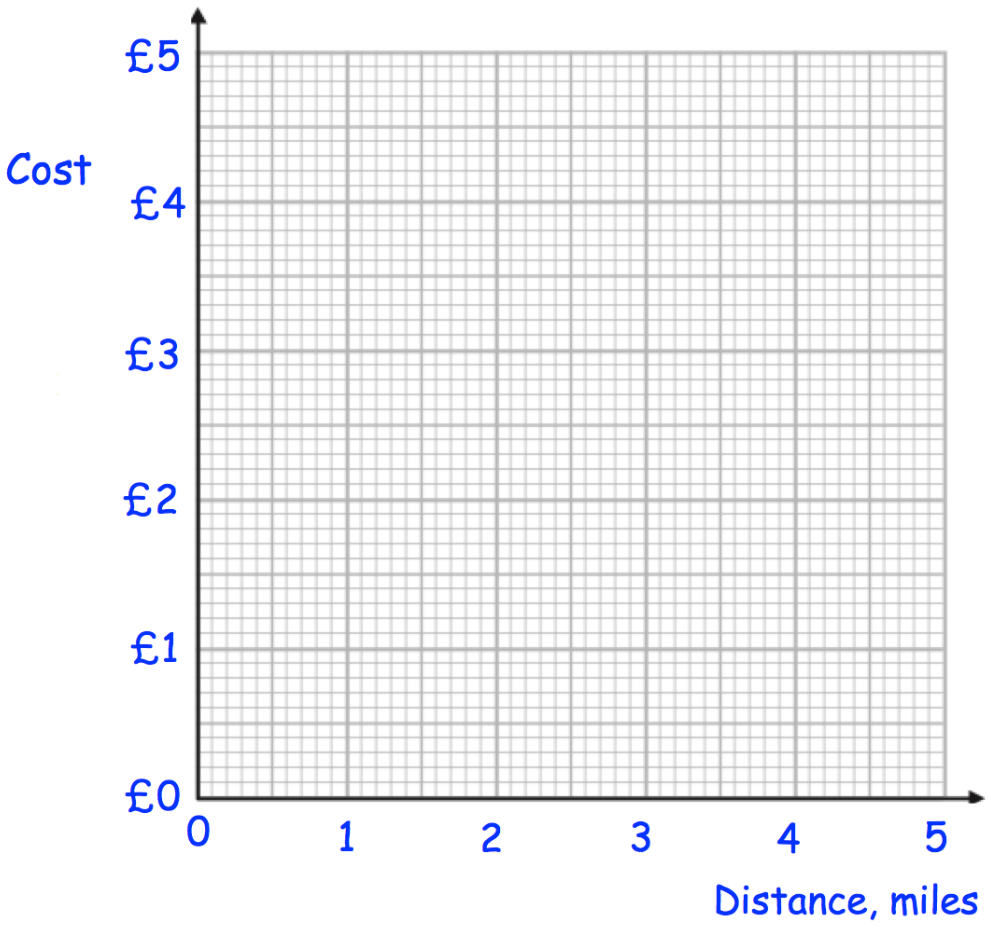
Question 1(c)



Question 1(d)



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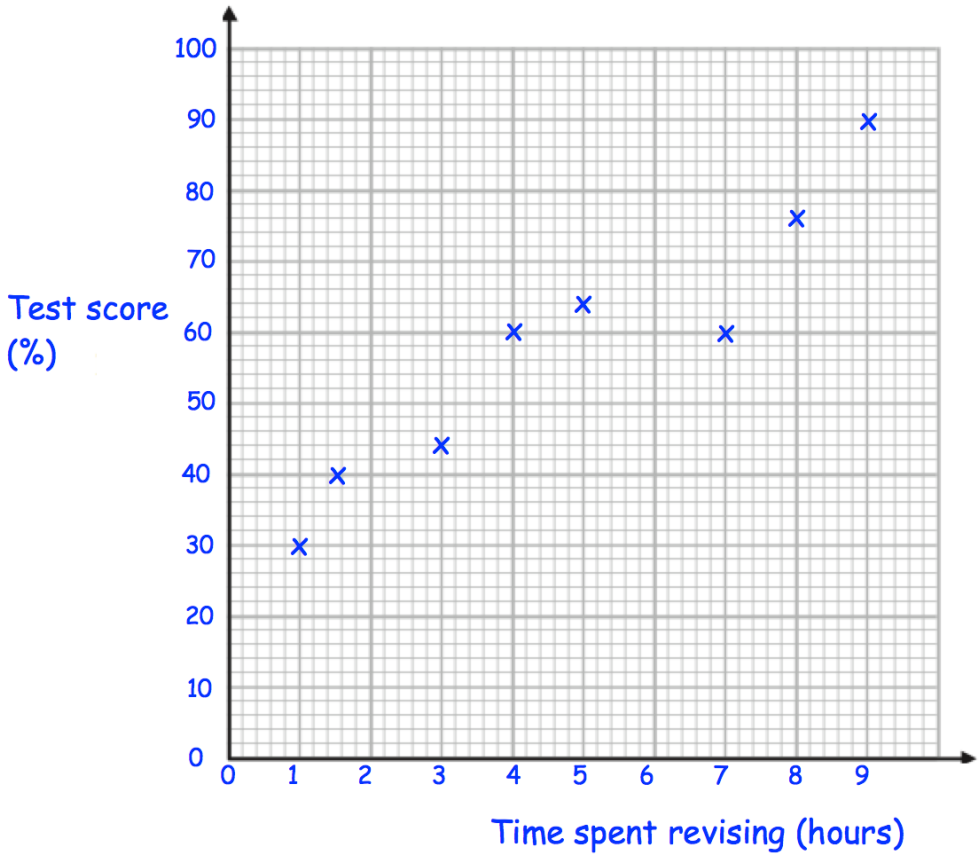
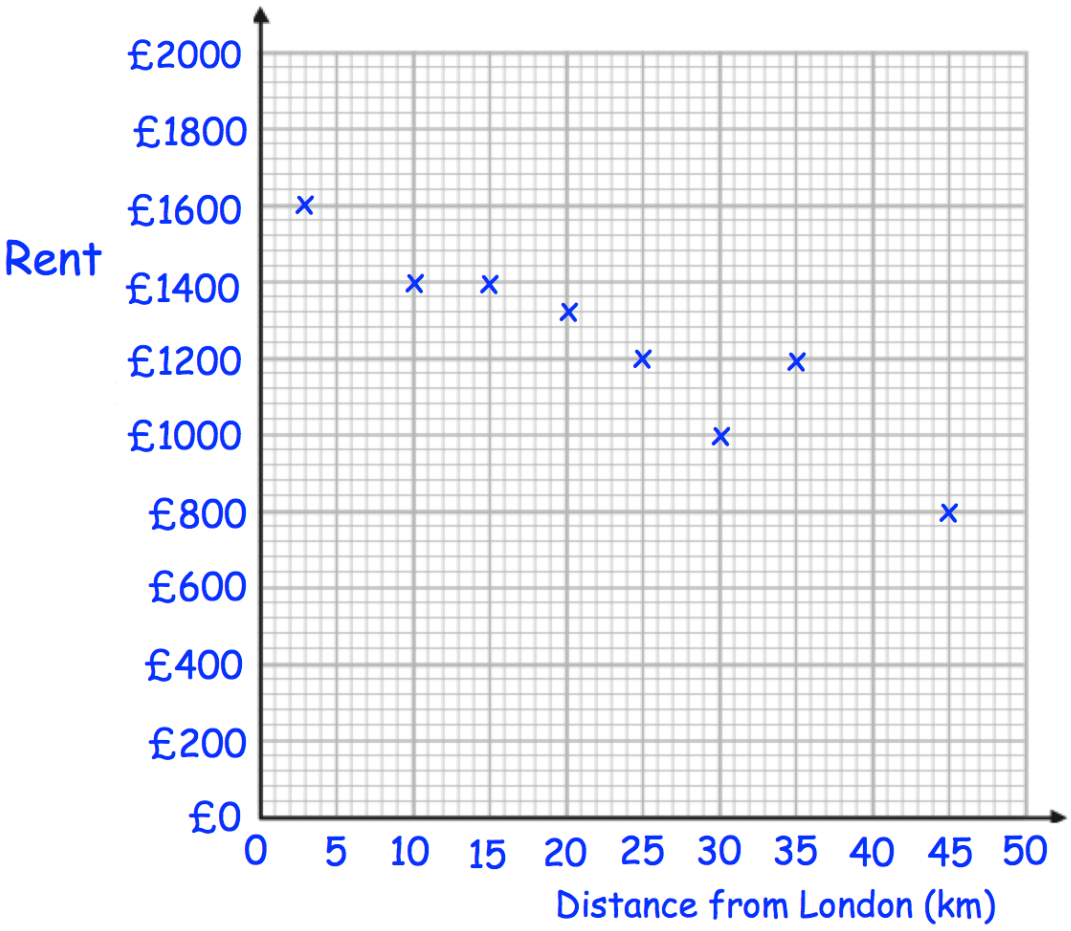
Apply 1



Apply 2



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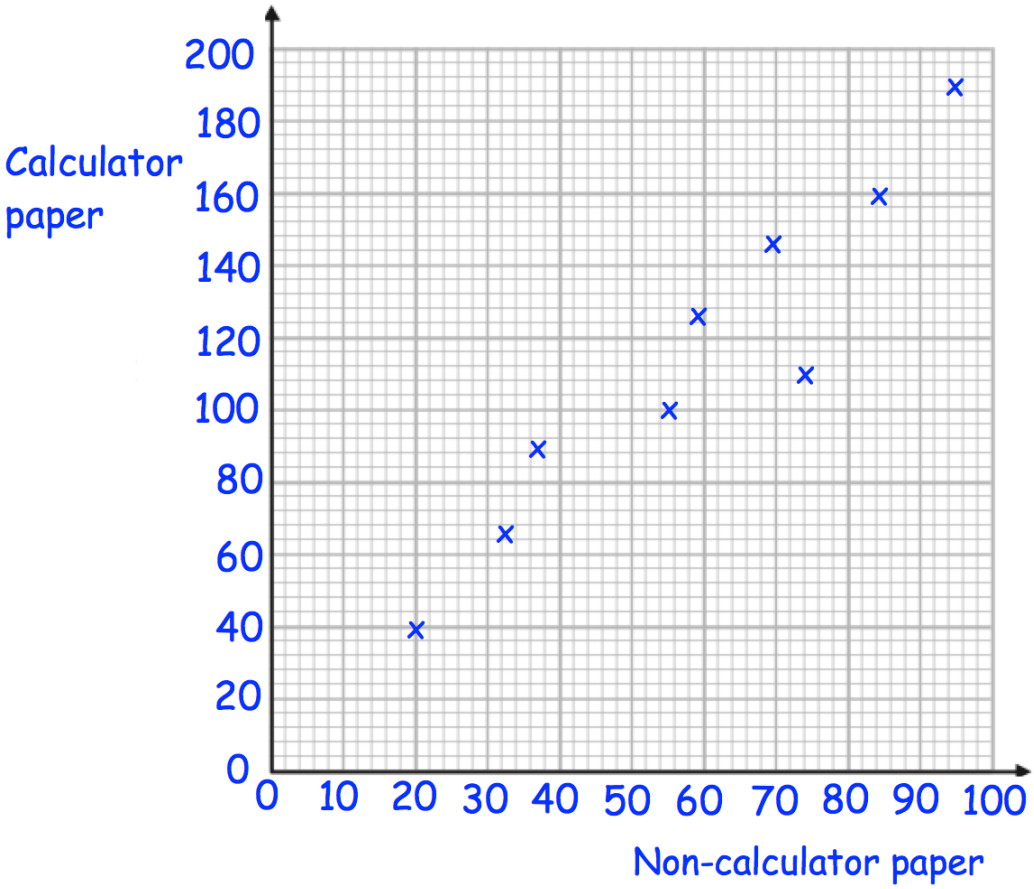
Apply 3



Apply 4