



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Scatter Graphs & Correlation · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Scatter Graphs & Correlation

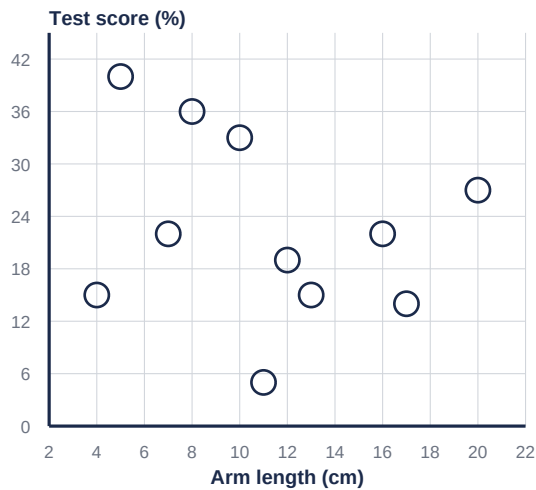
Total marks available: 55

● Scatter Graphs & Correlation

Q1

[1 mark]

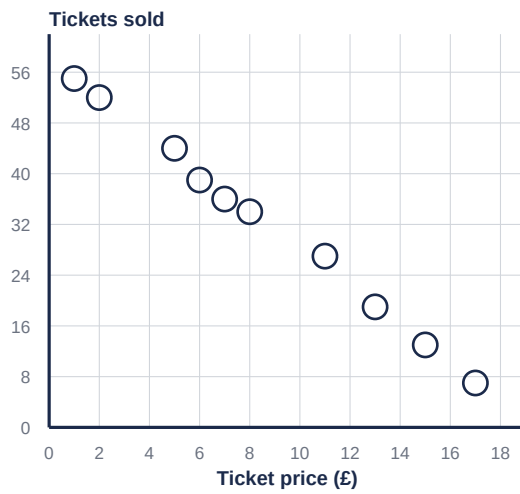
The scatter graph shows arm length (cm) against test score (%) for a sample of students. Describe the correlation shown by the scatter graph.



Q2

[1 mark]

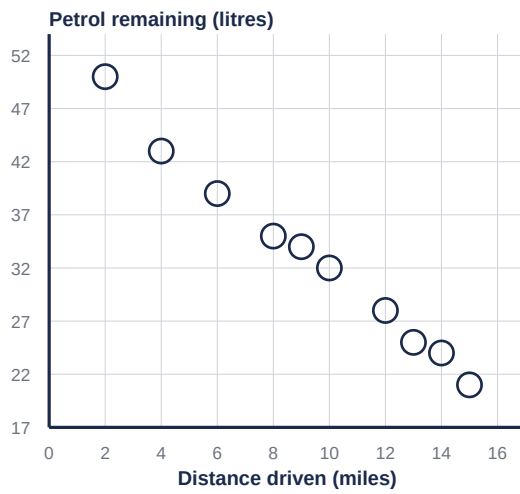
The scatter graph shows ticket price (£) plotted against tickets sold for a sample of concerts. Write down the coordinates of the point where ticket price (£) = 1.



Q3

[1 mark]

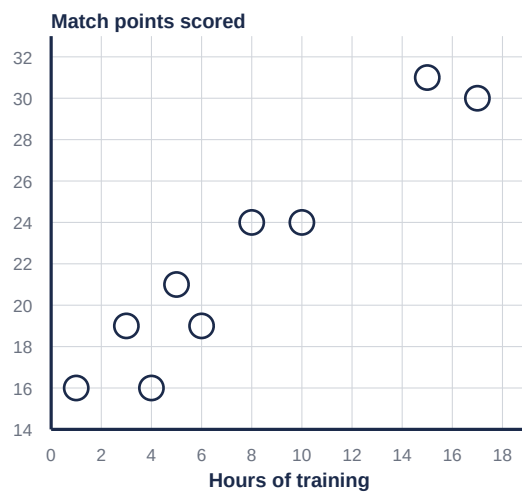
The scatter graph shows distance driven (miles) against petrol remaining (litres) for a sample of journeys. Describe the correlation shown by the scatter graph.



Q4

[1 mark]

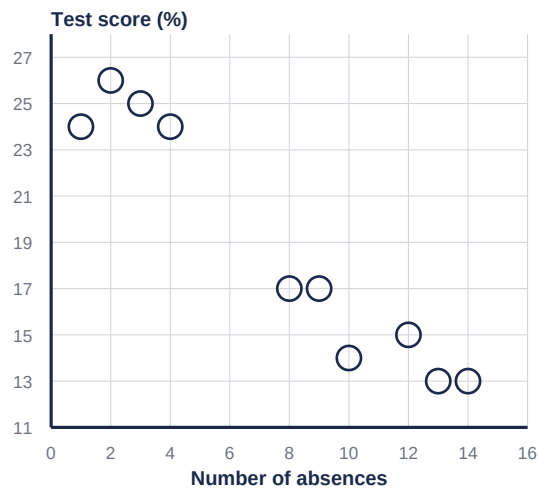
The scatter graph shows hours of training against match points scored for a sample of players. Describe the correlation shown by the scatter graph.



Q5

[1 mark]

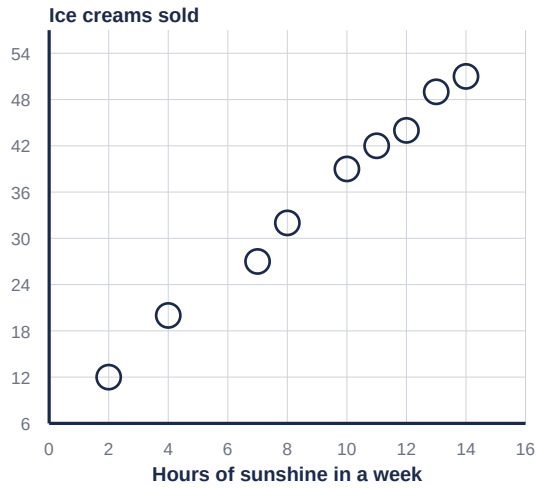
The scatter graph shows number of absences against test score (%) for a sample of students. Describe the correlation shown by the scatter graph.



Q6

[1 mark]

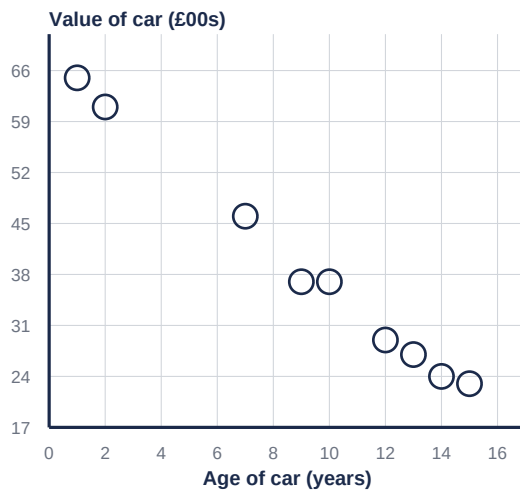
The scatter graph shows hours of sunshine in a week against ice creams sold for a sample of weeks. Describe the correlation shown by the scatter graph.



Q7

[1 mark]

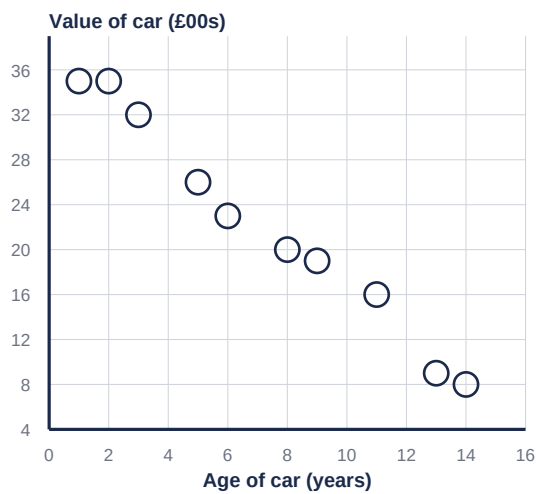
The scatter graph shows age of car (years) against value of car (£00s) for a sample of cars. Describe the correlation shown by the scatter graph.



Q8

[1 mark]

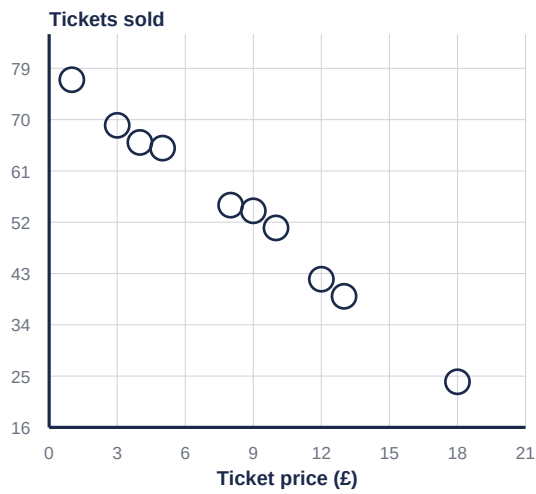
The scatter graph shows age of car (years) plotted against value of car (£00s) for a sample of cars. Write down the coordinates of the point where age of car (years) = 8.



Q9

[1 mark]

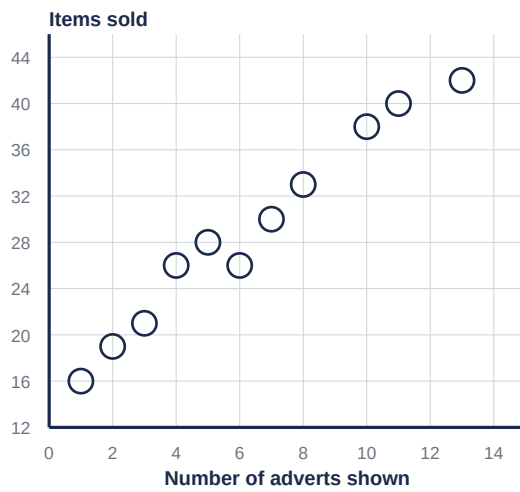
The scatter graph shows ticket price (£) against tickets sold for a sample of concerts. Describe the correlation shown by the scatter graph.



Q10

[1 mark]

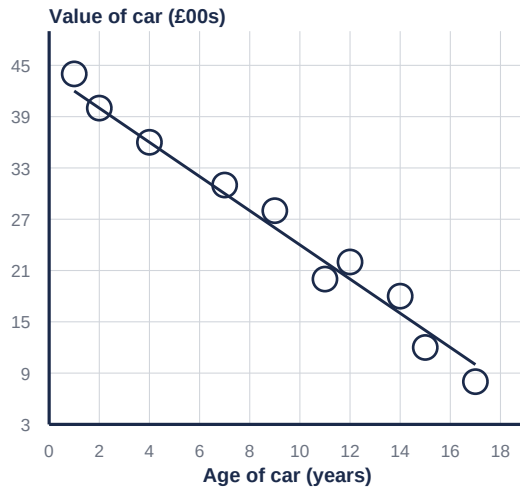
The scatter graph shows number of adverts shown plotted against items sold for a sample of shops. Write down the coordinates of the point where number of adverts shown = 5.



Q11

[2 marks]

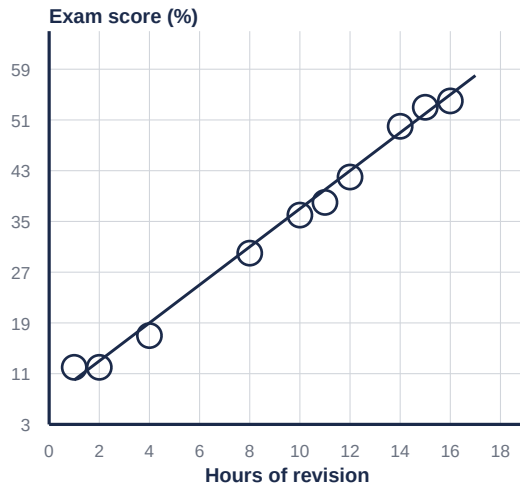
The scatter graph shows age of car (years) against value of car (£00s) for a sample of cars, with a line of best fit drawn. Use the line of best fit to estimate value of car (£00s) when age of car (years) = 7.



Q12

[2 marks]

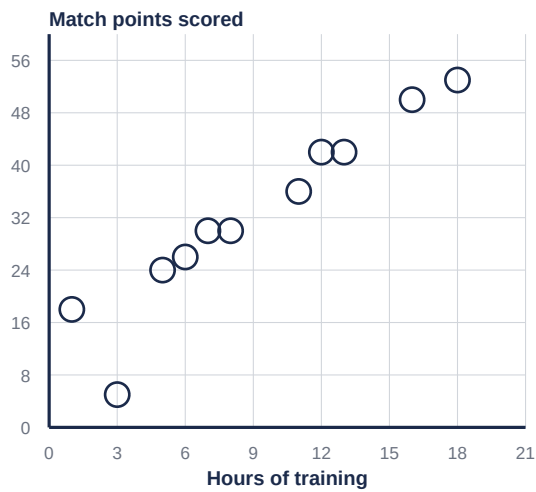
The scatter graph shows hours of revision against exam score (%) for a sample of students, with a line of best fit drawn. Use the line of best fit to estimate exam score (%) when hours of revision = 12.



Q13

[1 mark]

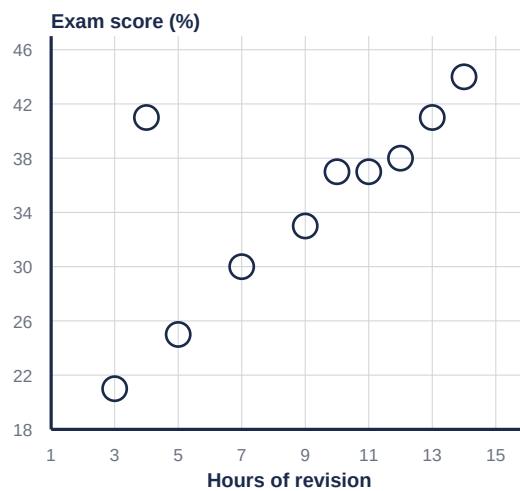
The scatter graph shows hours of training against match points scored for a sample of players. One point does not fit the pattern of the rest of the data. Write down the coordinates of this outlier.



Q14

[1 mark]

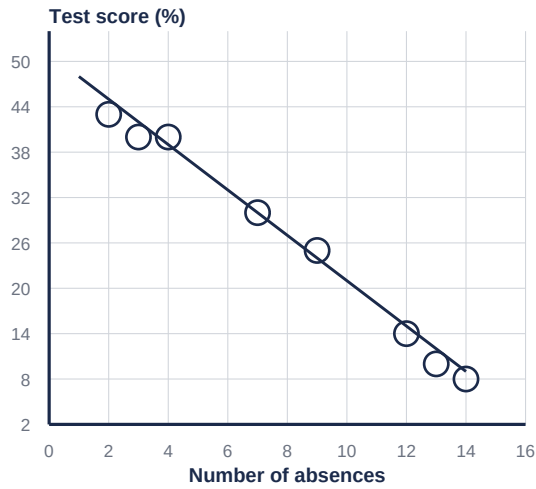
The scatter graph shows hours of revision against exam score (%) for a sample of students. One point does not fit the pattern of the rest of the data. Write down the coordinates of this outlier.



Q15

[2 marks]

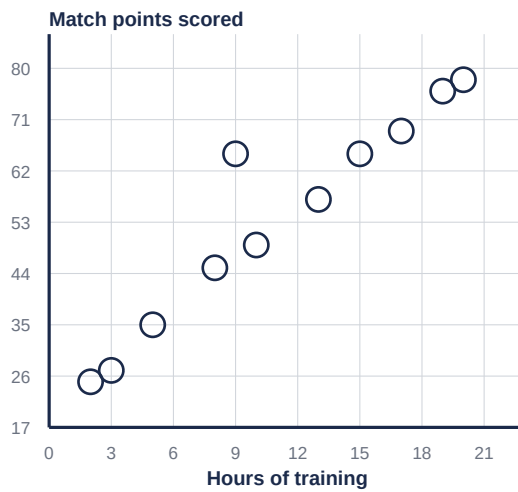
The scatter graph shows number of absences against test score (%) for a sample of students, with a line of best fit drawn. Use the line of best fit to estimate test score (%) when number of absences = 4.



Q16

[1 mark]

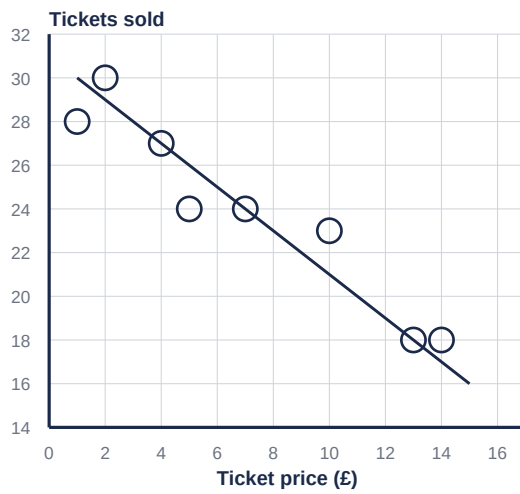
The scatter graph shows hours of training against match points scored for a sample of players. One point does not fit the pattern of the rest of the data. Write down the coordinates of this outlier.



Q17

[2 marks]

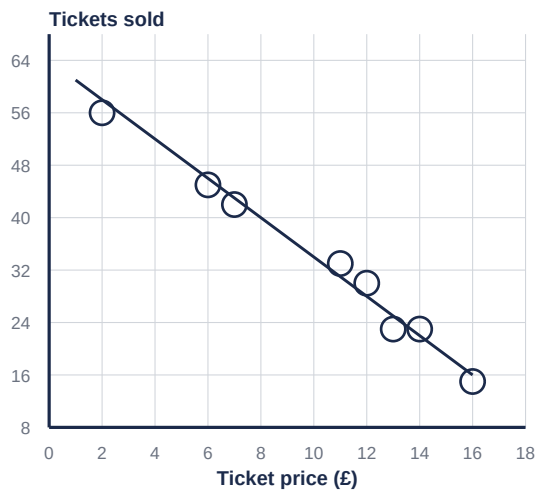
The scatter graph shows ticket price (£) against tickets sold for a sample of concerts, with a line of best fit drawn. Use the line of best fit to estimate tickets sold when ticket price (£) = 9.



Q18

[2 marks]

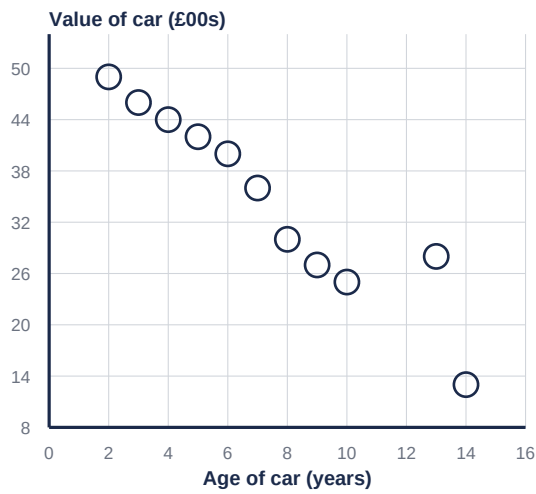
The scatter graph shows ticket price (£) against tickets sold for a sample of concerts, with a line of best fit drawn. Use the line of best fit to estimate tickets sold when ticket price (£) = 6.



Q19

[1 mark]

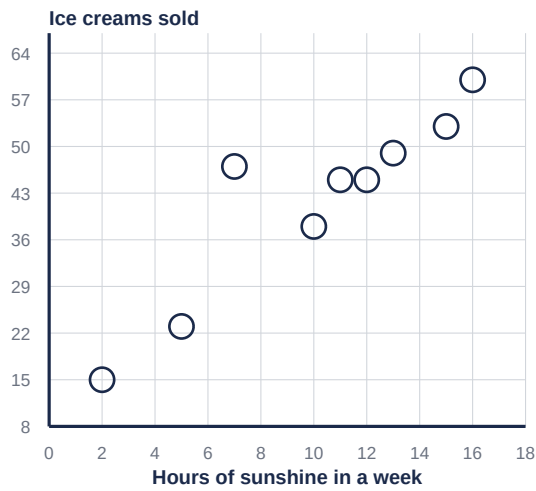
The scatter graph shows age of car (years) against value of car (£00s) for a sample of cars. One point does not fit the pattern of the rest of the data. Write down the coordinates of this outlier.



Q20

[1 mark]

The scatter graph shows hours of sunshine in a week against ice creams sold for a sample of weeks. One point does not fit the pattern of the rest of the data. Write down the coordinates of this outlier.



Q21

[3 marks]

A line of best fit for age of car (years) against value of car (£00s) for a sample of cars passes through the points (4, 24) and (11, 10). Find the equation of the line of best fit in the form $y = mx + c$.

Q22

[3 marks]

For a sample of weeks, the line of best fit for hours of sunshine in a week against ice creams sold has equation $y = 2x + 4$. The data used to draw the line covered hours of sunshine in a week from 2 to 15. (a) Use the equation to estimate ice creams sold when hours of sunshine in a week = 8. (b) Comment on the reliability of this estimate.

Q23

[3 marks]

For a sample of concerts, the line of best fit for ticket price (£) against tickets sold has equation $y = -x + 48$. The data used to draw the line covered ticket price (£) from 2 to 19. (a) Use the equation to estimate tickets sold when ticket price (£) = 24. (b) Comment on the reliability of this estimate.

Q24

[3 marks]

For a sample of shops, the line of best fit for number of adverts shown against items sold has equation $y = 2x + 12$. The data used to draw the line covered number of adverts shown from 2 to 16. (a) Use the equation to estimate items sold when number of adverts shown = 22. (b) Comment on the reliability of this estimate.

Q25

[3 marks]

A line of best fit for number of absences against test score (%) for a sample of students passes through the points (3, 43) and (12, 16). Find the equation of the line of best fit in the form $y = mx + c$.

Q26

[3 marks]

A line of best fit for hours of sunshine in a week against ice creams sold for a sample of weeks passes through the points (5, 24) and (9, 32). Find the equation of the line of best fit in the form $y = mx + c$.

Q27

[3 marks]

For a sample of shops, the line of best fit for number of adverts shown against items sold has equation $y = 3x + 4$. The data used to draw the line covered number of adverts shown from 2 to 18. (a) Use the equation to estimate items sold when number of adverts shown = 1. (b) Comment on the reliability of this estimate.

Q28

[3 marks]

For a sample of students, the line of best fit for hours of revision against exam score (%) has equation $y = x + 21$. The data used to draw the line covered hours of revision from 2 to 15. (a) Use the equation to estimate exam score (%) when hours of revision = 21. (b) Comment on the reliability of this estimate.

Q29

[3 marks]

A line of best fit for hours of sunshine in a week against ice creams sold for a sample of weeks passes through the points (3, 22) and (13, 52). Find the equation of the line of best fit in the form $y = mx + c$.

Q30

[3 marks]

For a sample of students, the line of best fit for number of absences against test score (%) has equation $y = -x + 37$. The data used to draw the line covered number of absences from 2 to 16. (a) Use the equation to estimate test score (%) when number of absences = 1. (b) Comment on the reliability of this estimate.