JRA Tutors
Private tuition and small online Study Pods

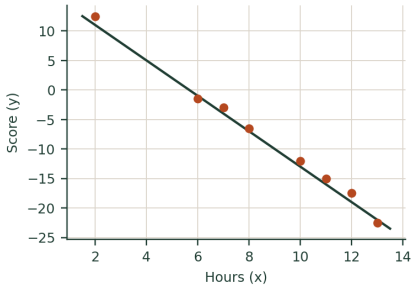
Scatter Graphs

Grade 4 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (43 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 63 marks.

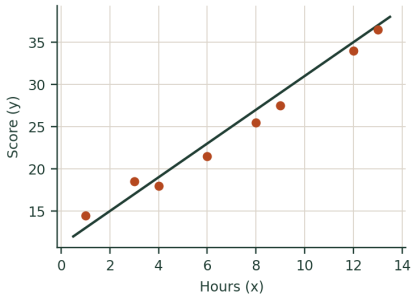
Warm-up

1 The scatter graph shows two sets of data with a line of best fit. Describe the type of correlation. **[2 marks]**



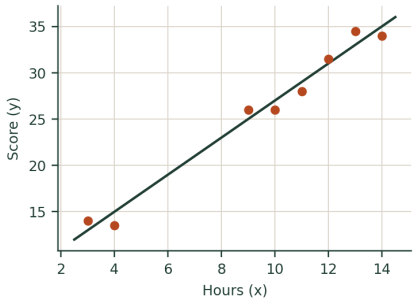
Answer _____

2 The scatter graph shows two sets of data with a line of best fit. Describe the type of correlation. **[2 marks]**



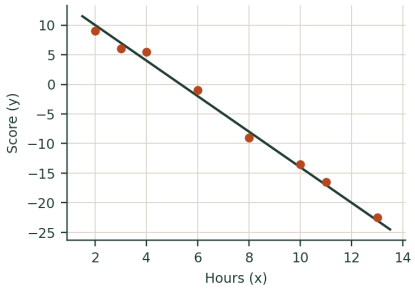
Answer _____

3 The scatter graph shows two sets of data with a line of best fit. Describe the type of correlation. **[2 marks]**



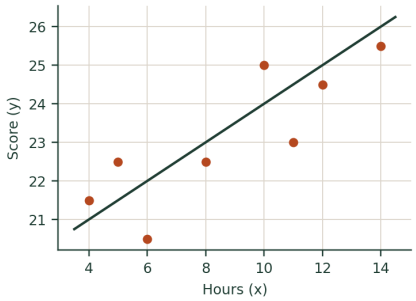
Answer _____

4 The scatter graph shows two sets of data with a line of best fit. Describe the type of correlation. **[2 marks]**



Answer _____

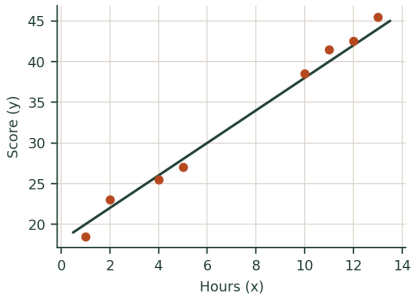
5 The scatter graph shows two sets of data with a line of best fit. Describe the type of correlation. **[2 marks]**



Answer _____

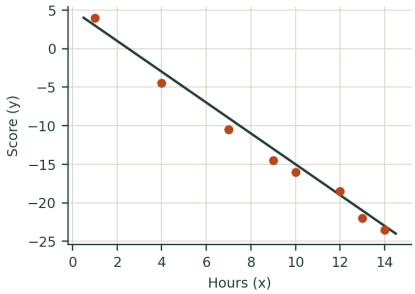
Core

6 Use the line of best fit to estimate the value of y when x = 7. **[3 marks]**



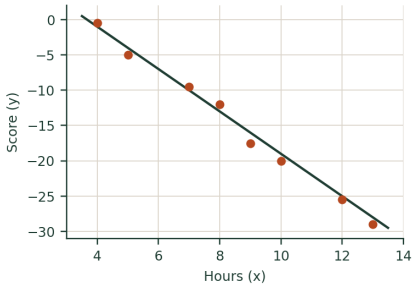
Answer _____

7 Use the line of best fit to estimate the value of y when x = 12. **[3 marks]**



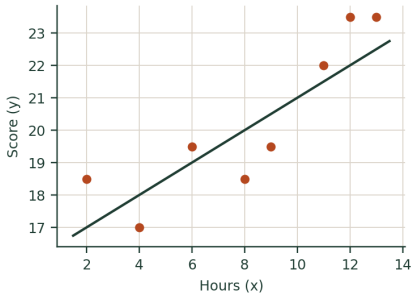
Answer _____

8 Use the line of best fit to estimate the value of y when x = 11. **[3 marks]**



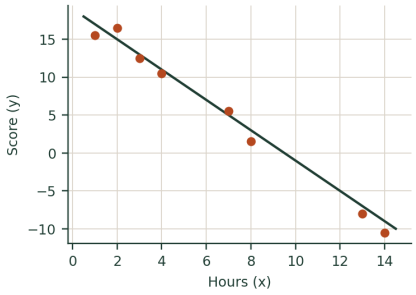
Answer _____

9 Use the line of best fit to estimate the value of y when x = 5. **[3 marks]**



Answer _____

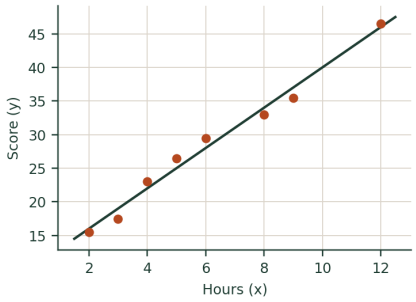
10 Use the line of best fit to estimate the value of y when x = 4. **[3 marks]**



Answer _____

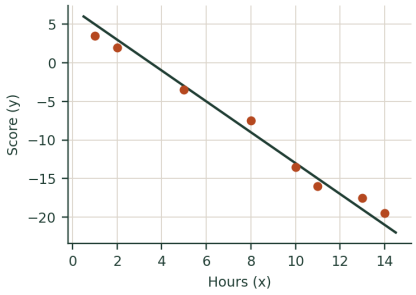
Stretch

11 Write down the equation of the line of best fit (the y-intercept is 10). **[4 marks]**



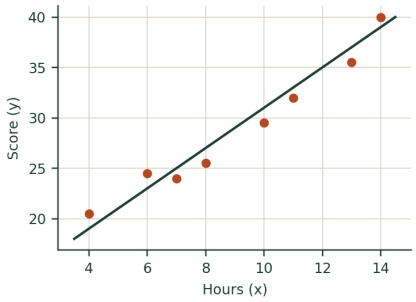
Answer _____

12 Use the line to estimate x when y = -9. **[4 marks]**



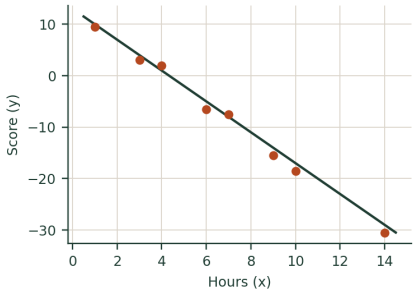
Answer _____

13 Is it reliable to use the line to predict y when x = 40? Explain. **[3 marks]**



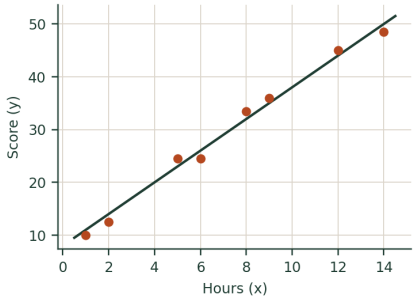
Answer _____

14 Work out the gradient of the line of best fit and say what it means. **[4 marks]**



Answer _____

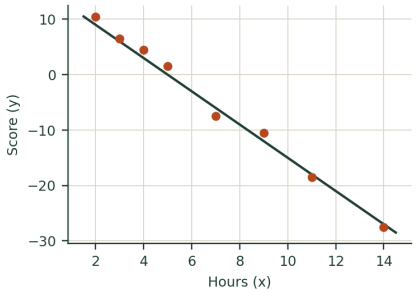
15 One point is far from the line. What is it called, and should it be included when drawing the line of best fit? **[3 marks]**



Answer _____

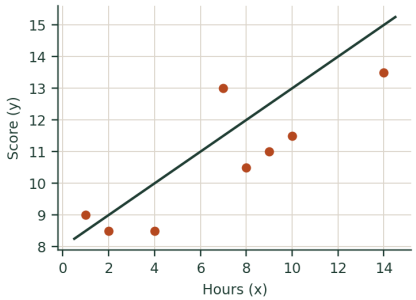
Challenge

16 The mean of the x-values is 6.875. The line of best fit passes through the mean point. Estimate the mean of the y-values. **[5 marks]**



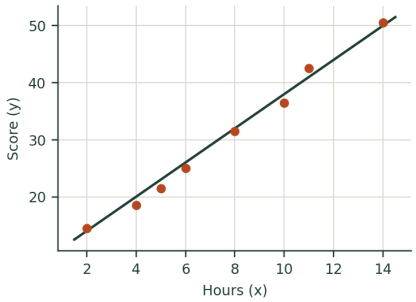
Answer _____

17 Give one reason why the relationship may not hold for much larger values of x. **[3 marks]**



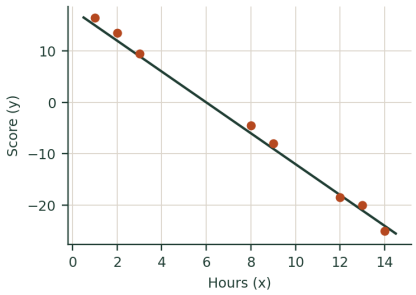
Answer _____

18 Use the line of best fit to estimate y when x = 7 and when x = 6. Work out the difference. **[4 marks]**



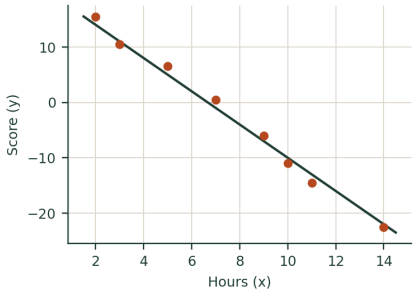
Answer _____

19 For which value of x does the line of best fit give y = 0? (Use y = -3x + 18.) **[5 marks]**



Answer _____

20 State whether the correlation is positive, negative or zero and explain what it means in context. **[3 marks]**



Answer