Scatter Graphs, Correlation and Data Comparison

Year 8 · Statistics · y8-stat

Name: _____ Date: _____

Class: _____ Score: _____ / _____

Instructions
Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. A scatter graph shows that as temperature increases, ice cream sales increase. What type of correlation is this?

2. A scatter graph shows that as speed increases, journey time decreases. What type of correlation is this?

3. A scatter graph shows no relationship between shoe size and test scores. What type of correlation is this?

4. A line of best fit passes through points showing height vs age. Reading a value WITHIN the range of the data is called what: interpolation or extrapolation?

5. A grouped frequency table shows ages 0-9: 12 people, 10-19: 18 people, 20-29: 9 people. How many people are aged under 20?

6. When one value increases and the other also increases, that is positive correlation. A scatter graph shows more study hours linked to higher test scores. What type of correlation is this?

7. A line of best fit is a straight line drawn through the general trend of scattered points, used to estimate values. If a line of best fit shows y = 20 when x = 5, what does the line estimate y to be at x = 5?

8. Estimating a value OUTSIDE the range of the collected data is less reliable and is called what?

Challenge

1. A line of best fit is used to predict a value far beyond the largest recorded data point, which makes the prediction unreliable. Is this interpolation or extrapolation?

2. A frequency table shows: 1-10: 4, 11-20: 9, 21-30: 7, 31-40: 5, total 25. What percentage of the total is in the 11-20 group?