

9 Statistics

9.1 Classifying statistical data

Notes and examples

Classify and tabulate statistical data.

e.g. tally tables, two-way tables.

9.2 Interpreting statistical data

Notes and examples

1 Read, interpret and draw inferences from tables and statistical diagrams.

2 Compare sets of data using tables, graphs and statistical measures.

e.g. compare averages and measures of spread between two data sets.

3 Appreciate restrictions on drawing conclusions from given data.

9.3 Averages and measures of spread

Notes and examples

1 Calculate the mean, median, mode and range for individual data and distinguish between the purposes for which these are used.

2 Calculate an estimate of the mean for grouped discrete or grouped continuous data.

3 Identify the modal class from a grouped frequency distribution.

9.4 Statistical charts and diagrams

Notes and examples

Draw and interpret:

(a) bar charts

(b) pie charts

(c) pictograms

(d) simple frequency distributions.

Includes composite (stacked) and dual (side-by-side) bar charts.

9 Statistics (continued)

9.5 Scatter diagrams

Notes and examples

- 1 Draw and interpret scatter diagrams.
- 2 Understand what is meant by positive, negative and zero correlation.
- 3 Draw by eye, interpret and use a straight line of best fit.

Plotted points should be clearly marked, for example as small crosses (x).

A line of best fit:

- should be a single ruled line drawn by inspection
- should extend across the full data set
- does not need to coincide exactly with any of the points but there should be a roughly even distribution of points either side of the line over its entire length.

9.6 Cumulative frequency diagrams

Notes and examples

- 1 Draw and interpret cumulative frequency tables and diagrams.
- 2 Estimate and interpret the median, percentiles, quartiles and interquartile range from cumulative frequency diagrams.

Plotted points on a cumulative frequency diagram should be clearly marked, for example as small crosses (x), and be joined with a smooth curve.

9.7 Histograms

Notes and examples

- 1 Draw and interpret histograms.
- 2 Calculate with frequency density.

On histograms, the vertical axis is labelled 'Frequency density'.

Frequency density is defined as

frequency density = frequency \div class width .