

Charts, tables and scatter graphs

Topic cliff notes / objectives, key ideas and examples

Learning objectives

- Read chart scales and calculate pie-chart angles.
- Describe correlation and judge predictions from scatter graphs.

Key ideas

- Read the title, labels, scales and key before interpreting a chart.
- Pie-chart angles show each category as a fraction of the total.

$$\text{sector angle} = \frac{\text{category frequency}}{\text{total frequency}} \times 360^\circ$$

- Scatter graphs plot paired values; do not join individual points with a zigzag line.
- Positive correlation trends upwards; negative correlation trends downwards. Correlation does not establish cause.
- Interpolation predicts within the observed range. Extrapolation predicts outside it and may be unreliable.

Worked example

Fifteen of forty students choose cycling. Find the cycling sector angle.

$$\text{cycling fraction} = \frac{15}{40}$$

$$\text{sector angle} = \frac{15}{40} \times 360^\circ = 135^\circ$$

Answer

$$135^\circ$$

Quick example

One pictogram symbol represents eight pupils. Interpret two and a half symbols.

$$2.5 \times 8 = 20 \text{ pupils}$$

Answer

$$20 \text{ pupils}$$

Watch out

A trend does not prove cause and effect. Predictions beyond the observed values deserve extra caution.

