Your notes

GCSE Statistics: revision notes

Charts and diagrams

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Bar charts and pictograms

- **Bar charts** show qualitative or discrete data. Bars have equal widths and gaps between them.
- Composite (stacked) **bar charts** show how a total splits into parts. Multiple (comparative) **bar charts** put bars side by side to compare groups.
- Pictograms use symbols, with a key such as "one symbol = 4 people".

Pie charts

- A **pie chart** shows how a whole divides into parts. Angle = frequency ÷ total × 360°. If 15 of 60 people chose blue, the angle is 90°.
- **Pie charts** show proportions, not actual numbers.
- Comparative **pie charts** (higher): the areas are in proportion to the totals, so radius ratio = √(total ratio). If one chart shows 100 people with radius 4 cm, a chart for 225 people has radius 4 × √(225 ÷ 100) = 6 cm.

Stem-and-leaf and other diagrams

- A **stem-and-leaf diagram** keeps the raw data and puts it in order. It must have a key, such as 3 | 5 means 35. Back-to-back **stem-and-leaf diagrams** compare two sets.
- **Population pyramids** show the age and gender structure of a population.
- **Choropleth maps** shade areas according to a value, with darker shades for higher values.
- Line graphs show changes over time.

Misleading diagrams

- Watch for axes that don't start at zero, uneven scales, missing labels, 3D effects that distort size, and pictures scaled in two directions.

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Key terms

Bar chart	A chart using bars of equal width with gaps.
Composite bar chart	A bar chart showing how totals divide into parts.
Pie chart	A circle divided into sectors to show proportions.
Stem-and-leaf diagram	A diagram that orders raw data using stems and leaves.
Population pyramid	A chart showing a population's age and gender structure.
Choropleth map	A map shaded to show values in each area.
Key	An explanation of what symbols or values in a diagram mean.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. What is the formula for a pie chart angle?
2. 15 of 60 people chose blue. What is the angle in a pie chart?
3. A pie chart angle is 72° for 18 people. How many people are in the whole chart?
4. What must every stem-and-leaf diagram have?
5. What is a composite bar chart?
6. What is a choropleth map?
7. What does a population pyramid show?
8. Which makes a graph misleading?

Answers

1. Frequency divided by total, times 360
2. 90°
3. 90
4. A key
5. A bar chart showing how totals divide into parts
6. A map shaded to show values in each area
7. The age and gender structure of a population
8. An axis that doesn't start at zero

What to do next

Practise 10 questions on this topic

Try 3 exam questions, with mark schemes

Read the lesson, one step at a time

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