

4.1 Data types, tables and charts

Name: _____ Class: _____ Date: _____ **Total: 15 marks**

KEY WORDS qualitative • two-way table

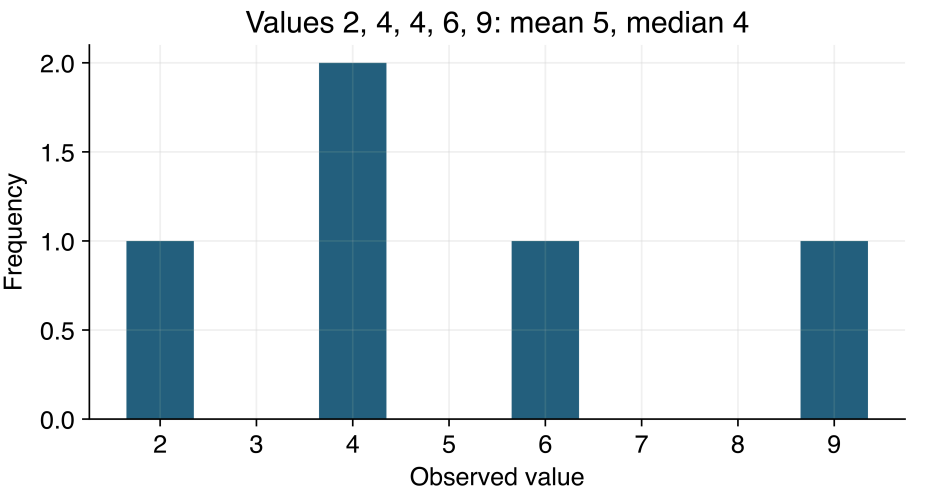
Data types, tables and charts

Objective

Classify data, extract from tables, build two-way tables and choose the right chart from the Core bank (rows S1–S4 Core).

1 Key knowledge and worked examples

- Data types.** Qualitative categorises (fruit), discrete counts (goals), continuous measures (height) – grouped or ungrouped. Extract from tables by reading row and column headers first, quoting units.
- Two-way tables.** Cross-tabulate two variables; cells must sum to their row and column totals: 30 students, 18 cricket, 15 tennis, 7 both fills a 2×2 with cells 11, 7, 8, 4 summing to 30. Chart choice: bars for categories, dual bars for comparisons, pie for parts-of-a-whole, lines for trends, scatter for correlation.



Original native-lesson illustration; labels belong to its worked example.

2 Practice

2.1 Classify: number of pets per household; favourite colour; mass of luggage. [3]

2.2 A two-way table shows 25 students: 14 play football, 11 basketball, 5 both. Fill the four cells and find how many play neither. [3]

2.3 Name the best chart for showing each: parts of a daily schedule; the trend of temperature over a week; comparing two classes' favourite subjects. [3]

3 Exam-style questions

3.1 (Original.) The two-way table below shows 40 shoppers by gender and purchase.

	Bought	Did not buy	Total
Male	12	a	20
Female	b	7	c
Total	25	d	40

(a) Find a , b , c and d . (b) A shopper is chosen at random: find the probability they are female AND bought. [4]

3.2 (Original.) From a printed train timetable extract: the departure time of the 3rd train on weekdays, and how many minutes the 2nd train takes versus the 4th (state your reads). (If the table is unavailable, describe exactly which cells you would read.) [2]

Solutions

2.1 Discrete; qualitative; continuous.

2.2 Football only 9, both 5, basketball only 6, neither 5.

2.3 Pie chart; line graph; dual bar chart.

3.1 (a) $a = 20 - 12 = 8$; $d = 40 - 25 = 15$; $b = 25 - 12 = 13$; $c = 8 + 7 = 15$ (check: $13 + 7 = 20$? No: $c = b + 7 = 20$; and $c = 40 - 20 = 20$ ✓ with $b = 13$). (b) $\frac{13}{40}$.

3.2 Read the weekday column, 3rd row for the departure; the 2nd and 4th rows' arrival minus departure cells for the durations; state both reads with units.

Local review guidance: row/column totals used to fill cells; cells consistent BOTH ways; chart choices justified by data type. This is authored classroom guidance.