

1.9 Comparing Distributions of a Quantitative Variable

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

KEY WORDS in context 结合背景 • parallel boxplots 并列箱线图 • median 中位数
• boxplot 箱线图 • distribution 分布

Objective

Build the skills to answer exam questions on **comparing distributions of a quantitative variable**.

You must be able to:

- compare two or more distributions using **parallel boxplots** 并列箱线图
- compare the **shape**, **center**, and **spread** of the groups explicitly
- use comparative language, always **in context** 结合背景

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ **Comparing groups**

Use **parallel boxplots** (or back-to-back displays) to compare distributions. Compare **shape**, **center**, and **spread** — and state each comparison **explicitly**.

■ **Comparative language in context**

Say things like “Class A’s median score is **higher than** Class B’s” or “Group X is **more variable than** Group Y”, always referring to the real-world context so the comparison means something.

2 Practice

2.1 Name a graph useful for comparing two distributions. [1]

2.2 State the three features to compare between the groups. [2]

2.3 State why comparisons should be made “in context”. [1]

3 Exam-style questions

3.1 To compare two distributions, you can use [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** a single pie chart
B parallel boxplots
C one dotplot
D a z-score

3.2 When comparing groups, you should compare shape, center, and [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** colour
B spread
C the total
D the category

3.3 Two classes’ test scores are shown with parallel boxplots.

- (a) Name one feature to compare. [1]
(b) Give an example of comparative language. [1]
(c) State why context matters in the comparison. [1]