

Exercise walk-through

Comparing Distributions of a Quantitative Variable ■ 1.9

eXercise

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

Method — Comparing groups

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

Method — 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.

Practice 2.1 ■ 1 mark

Name a graph useful for comparing two distributions.

Solution 2.1

Method: Comparing groups

Worked steps

parallel boxplots **B1**.

Practice 2.2 ■ 2 marks

State the three features to compare between the groups.

Solution 2.2

Method: Comparing groups

Worked steps

shape, center, spread **B1** **B1** *for any two; for all three.*

Practice 2.3 ■ 1 mark

State why comparisons should be made “in context”.

Solution 2.3

Worked steps

so the comparison is meaningful and refers to the real situation **B1**.

Exam-style 3.1 ■ 1 mark

To compare two distributions, you can use

A a single pie chart

B parallel boxplots

C one dotplot

D a z-score

Solution 3.1

Method: Comparing groups

A a single pie chart

B parallel boxplots 

C one dotplot

D a z-score

Worked steps

B.

Exam-style 3.2 ■ 1 mark

When comparing groups, you should compare shape, center, and

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

Solution 3.2

Method: Comparing groups

A colour

B spread



C the total

D the category

Worked steps

B.

Exam-style 3.3 ■ 1 mark

Two classes' test scores are shown with parallel boxplots.

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

Solution 3.3

Worked steps

(a) shape, center, or spread (any one) **B1**. (b) e.g. “Class A’s median is higher than Class B’s” **B1**. (c) so the comparison relates to the actual data being studied **B1**.