

Exercise walk-through

Representing a Categorical Variable with Graphs ■ 1.4

eXercise

You must be able to

- display a categorical variable with a **bar chart** 条形图
- use a **pie chart** 饼图 to show each category's share of the whole
- represent two categorical variables with a **side-by-side** or **segmented bar chart** 分段条形图

Method — Bar chart and pie chart

A **bar chart** shows the distribution of a categorical variable using the frequency or relative frequency of each category. A **pie chart** shows each category as a **share of the whole**.

Method — Two categorical variables

A **side-by-side** or **segmented (stacked) bar chart** compares two categorical variables — for example, drink choice broken down by age group.

Practice 2.1 ■ 1 mark

Name a graph for a single categorical variable.

Solution 2.1

Method: Bar chart and pie chart

Worked steps

a bar chart **B1**.

Practice 2.2 ■ 1 mark

State what a pie chart shows.

Solution 2.2

Method: Bar chart and pie chart

Worked steps

each category as a share (proportion) of the whole **B1**.

Practice 2.3 ■ 1 mark

Name a graph for displaying two categorical variables.

Solution 2.3

Method: Two categorical variables

Worked steps

a side-by-side or segmented (stacked) bar chart **B1**.

Exam-style 3.1 ■ 1 mark

A bar chart displays

- A** the shape of a quantitative variable
- B** the distribution of a categorical variable
- C** a scatterplot
- D** a z-score

Solution 3.1

- A the shape of a quantitative variable
- B the distribution of a categorical variable** 
- C a scatterplot
- D a z-score

Worked steps

B.

Exam-style 3.2 ■ 1 mark

A pie chart shows each category as

- A** a count only
- B** a share of the whole
- C** a mean
- D** an outlier

Solution 3.2

Method: Bar chart and pie chart

A a count only

B a share of the whole



C a mean

D an outlier

Worked steps

B.

Exam-style 3.3 ■ 1 mark

A café records customers' drink choices.

- (a) Name a suitable graph for this one variable.
- (b) State what a pie chart of the data would show.
- (c) Name a graph that compares drink choice by age group.

Solution 3.3

Method: Two categorical variables

Worked steps

(a) a bar chart **B1**. (b) each drink as a share of the whole **B1**. (c) a segmented or side-by-side bar chart **B1**.