

Exercise walk-through

Introducing Statistics: What Can We Learn from Data? ■ 1.1

eXercise

You must be able to

- identify the **individuals** 个体 (cases) and the **variables** 变量 in a data set
- describe **statistics** 统计学 as the science of learning from data that vary
- pose a **statistical question** 统计问题 that anticipates variability

Method — Individuals and variables

The **individuals** are the people or objects described; the **variables** are the characteristics recorded about them.

Method — Statistics and statistical questions

Statistics is the science of learning from **data that vary**. A good **statistical question anticipates variability** — its answer is a distribution of values, not a single fixed number.

Practice 2.1 ■ 1 mark

Define statistics.

Solution 2.1

Worked steps

the science of learning from data that vary **B1**.

Practice 2.2 ■ 2 marks

In a data set of students' heights, state the individuals and the variable.

Solution 2.2

Worked steps

individuals: the students; variable: their height **B1** **B1**.

Practice 2.3 ■ 1 mark

State one feature of a good statistical question.

Solution 2.3

Method: Statistics and statistical questions

Worked steps

it anticipates variability (its answer is a distribution, not one value) **B1**.

Exam-style 3.1 ■ 1 mark

The people or objects described in a data set are the

A variables

B individuals

C statistics

D graphs

Solution 3.1

Method: Individuals and variables

A variables

B individuals



C statistics

D graphs

Worked steps

B.

Exam-style 3.2 ■ 1 mark

A statistical question anticipates

A a single fixed answer

B variability in the data

C no data at all

D a graph

Solution 3.2

Method: Statistics and statistical questions

A a single fixed answer

B variability in the data 

C no data at all

D a graph

Worked steps

B.

Exam-style 3.3 ■ 1 mark

A survey records each student's favourite sport.

- (a) Name the individuals.
- (b) Name the variable.
- (c) State whether “What is my friend's height?” is a statistical question.

Solution 3.3

Method: Statistics and statistical questions

Worked steps

(a) the students **B1**. (b) favourite sport **B1**. (c) no — it has a single answer with no variability **B1**.