

1.1 Introducing Statistics: What Can We Learn from Data?

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS statistic 统计量 • data 数据 • individuals 个体 • statistical question 统计问题 • statistics 统计学

Objective

Build the skills to answer exam questions on **what we can learn from data**.

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

1 Worked examples

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

■ Individuals and variables

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

■ 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.

2 Practice

2.1 Define statistics. [1]

2.2 In a data set of students' heights, state the individuals and the variable. [2]

2.3 State one feature of a good statistical question. [1]

3 Exam-style questions

3.1 The people or objects described in a data set are the [1]

- **A** variables
 - **B** individuals
 - **C** statistics
 - **D** graphs
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3.2 A statistical question anticipates [1]

- **A** a single fixed answer
 - **B** variability in the data
 - **C** no data at all
 - **D** a graph
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3.3 A survey records each student's favourite sport.

(a) Name the individuals. [1]

(b) Name the variable. [1]

(c) State whether "What is my friend's height?" is a statistical question. [1]

Solutions

2.1 the science of learning from data that vary.

2.2 individuals: the students; variable: their height.

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

3.1 B.

3.2 B.

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