

Exercise walk-through

The Internet ■ 4.1

eXercise

You must be able to

- explain how the **Internet 互联网** is a network of networks using shared **protocols 协议**
- describe how data is divided into **packets 数据包**
- explain the role of an **IP address IP 地址**
- distinguish the **Internet** from the **World Wide Web 万维网**

Method — The Internet

A **network of interconnected networks** that communicate using shared **protocols** (agreed sets of rules).

Method — Packets and IP addresses

Data is split into **packets** that travel **independently** and are **reassembled** at the destination. An **IP address** identifies each device on the network.

Method — Internet vs Web

The **World Wide Web** is a **service** (of web pages) that runs **on** the Internet — they are not the same thing. **Redundant** paths help data reach its destination reliably.

Practice 2.1 ■ 1 mark

Define the Internet.

Solution 2.1

Worked steps

a network of interconnected networks that use shared protocols **B1**.

Practice 2.2 ■ 1 mark

State what a packet is.

Solution 2.2

Worked steps

a small piece of data that travels independently and is reassembled at the destination
B1.

Practice 2.3 ■ 2 marks

State the difference between the Internet and the World Wide Web.

Solution 2.3

Method: Internet vs Web

Worked steps

the Internet is the network of networks; the World Wide Web is a service of linked pages that runs on it **B1** **B1**.

Exam-style 3.1 ■ 1 mark

An IP address is used to

- A** compress data
- B** identify a device on the network
- C** sort packets
- D** encrypt a file

Solution 3.1

- A** compress data
- B** identify a device on the network 
- C** sort packets
- D** encrypt a file

Worked steps

B.

Exam-style 3.2 ■ 1 mark

Data sent over the Internet is divided into

A bytes only

B packets

C pixels

D strings

Solution 3.2

Method: Internet vs Web

A bytes only

B packets



C pixels

D strings

Worked steps

B.

Exam-style 3.3 ■ 1 mark

A file is sent across the Internet.

- (a) State how it travels.
- (b) State what a protocol is.
- (c) State one benefit of redundant network paths.

Solution 3.3

Method: Internet vs Web

Worked steps

(a) as packets that travel independently and are reassembled **B1**. (b) an agreed set of rules for communication **B1**. (c) data can still reach its destination if one path fails **B1**.