AP COMPUTER SCIENCE A • EXERCISE SHEET

1.7 Application Program Interface (API) and Libraries

Name: _____ Class: _____ Date: _____ **Total: 8 marks**

Objective

Build the skills to answer exam questions on **the Application Program Interface (API) and libraries**.

You must be able to:

- understand that an **API** 应用程序接口 describes how to use a class
- explain that a **library** 库 is a collection of prewritten, reusable classes
- read an API entry to find a method's name, parameters, and return value
- locate classes in the AP Java **Quick Reference**

1 Worked examples

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

■ API and library

An **API** describes **how to use** a class without knowing how it is built inside. A **library** is a collection of prewritten classes that programmers reuse.

■ Reading an API

An API entry gives a method's **name**, its **parameters**, and its **return value** — enough to call it correctly.

■ Quick Reference

Reusing library classes supports **abstraction** and saves work; the AP Java **Quick Reference** lists the classes and methods you may use.

2 Practice

2.1 State what an API describes. [1]

2.2 Define a library. [1]

2.3 State one benefit of reusing library classes. [1]

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3 Exam-style questions

3.1 An API describes [1]

- **A** how a class is built inside
- **B** how to use a class
- **C** the hardware
- **D** the compiler

3.2 A library is a collection of [1]

- **A** errors
- **B** prewritten reusable classes
- **C** variables
- **D** bytes

3.3 A student looks up how to call a method.

(a) Name what documents the method's parameters and return value. [1]

(b) State one benefit of using a library. [1]

(c) Name the reference used in the AP exam. [1]

4 Go further

- work through the **1.7 Application Program Interface (API) and Libraries** lesson on the **Learn** page;

- read the **Using Objects** section of the AP Computer Science A handout on the **Know** page.

Solutions

2.1 how to use a class (without knowing its internal details).

2.2 a collection of prewritten classes that can be reused.

2.3 it saves work and supports abstraction.

3.1 B.

3.2 B.

3.3 (a) the API. (b) it saves writing code from scratch. (c) the AP Java Quick Reference.