

3.5 Methods: How to Write Them

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

KEY WORDS accessor 访问器 • mutator 修改器 • return type 返回类型 • constructor 构造函数

Objective

Build the skills to answer exam questions on **writing methods**.

You must be able to:

- write an **accessor** 访问器 (getter) that returns an instance variable
- write a **mutator** 修改器 (setter) that changes an instance variable
- give a method a **return type** 返回类型 and use **return**

1 Worked examples

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

■ Accessor and mutator

- An **accessor** (getter) **returns** the value of an instance variable.
- A **mutator** (setter) **changes** it.

```
public int getAge()      { return age; }    // accessor
public void setAge(int a) { age = a; }      // mutator
```

■ Return type

Every method states a **return type**; **return** sends back a result. A **void** method returns nothing.

2 Practice

2.1 State what an accessor method does. [1]

2.2 State what a mutator method does. [1]

2.3 State what the keyword **return** does. [1]

3 Exam-style questions

3.1 A getter (accessor) method [1]

- | | |
|---|---|
| A | B |
| C | D |
- A changes a variable
 - B returns a variable's value
 - C prints output
 - D deletes a variable

3.2 A method that changes an instance variable is a [1]

- | | |
|---|---|
| A | B |
| C | D |
- A getter
 - B setter (mutator)
 - C constructor
 - D void loop

3.3 `public int getScore() { return score; }.`

- (a) Name this kind of method. [1]
- (b) State its return type. [1]
- (c) State what a matching setter would do. [1]