

# 3.5 Methods: How to Write Them

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Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Total: 8 marks

## Objective

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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

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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

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2.1 State what an accessor method does. [1]

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2.2 State what a mutator method does. [1]

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

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### 3 Exam-style questions

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3.1 A getter (accessor) method [1]

- A changes a variable
  - B returns a variable's value
  - C prints output
  - D deletes a variable
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3.2 A method that changes an instance variable is a [1]

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

### 4 Go further

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- work through the **3.5 Methods: How to Write Them** lesson on the **Learn** page;
- read the **Writing Classes** section of the AP Computer Science A handout on the **Know** page.

## Solutions

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**2.1** it returns the value of an instance variable.

**2.2** it changes the value of an instance variable.

**2.3** it sends a result back to the caller.

**3.1 B.**

**3.2 B.**

**3.3** (a) an accessor (getter). (b) `int`. (c) change (set) the score.