

2.2 Boolean Expressions

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS boolean expression 布尔表达式 • relational operators 关系运算符

Objective

Build the skills to answer exam questions on **Boolean expressions**.

You must be able to:

- write a **Boolean expression** 布尔表达式 that evaluates to **true** or **false**
- use the **relational operators** 关系运算符 **<**, **<=**, **>**, **>=**, **==**, **!=**
- understand that **==** tests equality while **=** performs assignment

1 Worked examples

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

■ Boolean expressions

A Boolean expression evaluates to **true** or **false**, built with **relational operators**:

- **5 == 5** is **true** (equality)
- **3 != 4** is **true** (not equal)
- **7 >= 7** is **true**

■ == vs =

== tests equality; **=** assigns a value. Confusing them is a common bug.

2 Practice

2.1 State what a Boolean expression evaluates to.

[1]

2.2 State the difference between **==** and **=**.

[2]

2.3 Evaluate `7 >= 7`.

[1]

3 Exam-style questions

3.1 Which operator tests equality?

[1]

A	B
C	D

A `=`

B `==`

C `!=`

D `<=`

3.2 `4 != 4` evaluates to

[1]

A	B
C	D

A `true`

B `false`

C `4`

D an error

3.3 Given `int x = 6, y = 9`;

(a) evaluate `x < y`.

[1]

(b) evaluate `x == y`.

[1]

(c) evaluate `x != y`.

[1]