ACSL

2018 - 2019 **American Computer Science League** **Contest #3**

Elementary Division

考号/Exam Code: _____ 姓名/Name:_____ 学校/School:_____

1. Boolean Algebra

Evaluate the following expression as either TRUE or FALSE:

NOT (15 + 3 > 23 - 7) OR (14 / 7 ≥ 1 ^ 2 AND 7 * 4 < 3 * 10)

1.

2. Boolean Algebra

Which ordered pairs make the following statement TRUE?

NOT (A OR NOT B) OR (NOT B AND A)

2.

3. Boolean Algebra

How many ordered pairs make the following statement FALSE?

~(~A * ~B) + A * B

3.

4. Boolean Algebra

Simplify the following Boolean expression:

~(A * ~B) + ~(~A * B)

4.

5. Boolean Algebra

Determine which of the following Boolean expressions are TRUE more often than when they are FALSE:

A) ~(~B) + ~(~A)
B) A + ~B
C) A * ~B
D) ~(A * B)

5.

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1. Boolean Algebra

计算下述表达式是真还是假：

NOT (15 + 3 > 23 - 7) OR (14 / 7 ≥ 1 ^ 2 AND 7 * 4 < 3 * 10)

1.

2. Boolean Algebra

哪些有序对能使得下述表达式为真：

NOT (A OR NOT B) OR (NOT B AND A)

2.

3. Boolean Algebra

有多少个有序对能使下述表达式为假？

~(~A * ~B) + A * B

3.

4. Boolean Algebra

简化下述布尔表达式：

~(A * ~B) + ~(~A * B)

4.

5. Boolean Algebra

判断下列哪一个布尔表达式为真比他们为假时更常见：

A) ~(~B) + ~(~A)
B) A + ~B
C) A * ~B
D) ~(A * B)

5.