

Puzzle:

1. An island has only knights and knaves.
2. Knights always tell the truth; Knaves always lie.
3. You encounter two islanders, A and B.
4. You ask: are you both the same (either both knights or both knaves) or both different?
5. A answers: We're both the same.
6. B answers: We're different.

What is A; what is B?

Sample argument

1. If A and B are both the same; then A and B both answered the same way.
2. A and B did not both answer the same way.
3. So: A and B are not both the same. (1,2)
4. Either A is a knight or A is a knave.
5. If A is a knight then A answered "we're different."
6. A did not answer "we're different."
7. A is not a knight. (5,6)
8. So A is a knave. (4,7)
9. So B is a knight. (3, 9)

Definitions*Argument*

A set of premises and a conclusion such that the premises are supposed to support the conclusion.

Logical consequence

A conclusion is a logical consequence of some premises if the conclusion follows in virtue of the logical form of the premises and the conclusion.

Valid argument

An argument is valid when its conclusion is a logical consequence of its premises.

Sound argument

A valid argument with true premises.

Logical form

The logical form of a sentence is what you get when you abstract from the content of the sentence and keep just the sentence's logical constants.

Logical constant

Logical constants include sentential operators like: *and, or, it's not the case that, and if...then...*