

## Knights and Knaves

(based on Richard Smullyan's book, "What is the Name of this Book?")

Some famous math problems are about Boolean Island where:

- Everyone is either a knight or a knave (liar).
- Knights *always* tell the truth.
- Knaves *always lie*.

1. There are two Boolies, **A** and **B**.

**A** says: "Both of us are Knights."

**B** says: "She's lying, **A** is a Knave."

What are **A** and **B**?

2. There are two Boolies, **A** and **B**.

**A** says: "Both of us are Knaves."

What are **A** and **B**?

3. There are two Boolies, **A** and **B**.

**A** says: "At least one of us is a liar."

What are **A** and **B**?

4. Three Boolies **A**, **B**, and **C**, were standing together in a garden. A stranger passed by and asked **A**: "Are you a knight or a liar?" **A** answered, but quietly so that the stranger could not hear him. Then the stranger asked **B**: "What did **A** say?" **B** replied: "**A** said that he is a liar." At this point **C** said: "Don't believe **B**, he is lying."

What are **B** and **C**?

5. There are three Boolies, **A**, **B**, and **C**.

**A** says "All of us are liars."

**B** says "Exactly one of us is a knight."

What are **A**, **B**, and **C**?