

Name \_\_\_\_\_

These questions concern the Island of **Knights and Knaves**. Each person who lives on this island is either a Knight or a Knave. Every statement made by a Knight is true, while every statement made by a Knave is false.

Which type made each of the following statements, a Knight or a Knave? **Explain the reasons for your answers.** (One of the statements below is impossible to have been made by either.)

1.  $1 + 1 = 2$ .

2.  $2 \cdot 2 = 5$ .

3. I am a Knight.

4. I am a Knave.

5. My brother and I are both Knaves. (Which type is the speaker, which type is the speaker's brother?)

6. I am a knave but my sister is not. (Which type is the speaker, which type is the speaker's sister?)

7. Of my sister and I, at least one of us is a Knave. (Which type is the speaker, which type is the speaker's sister?)

8. I am a Knave or there is gold on the island. (Which type is the speaker, and is there gold on the island?)

9. In this example, there are three people on the island: A, B, and C.

A says: "All of us are Knaves."

B says: "Exactly one of us is a Knight."

(What are A, B, and C?)

10. In this example, there are three people on the island: A, B, and C.

A says: "B and C are of the same type."

Someone asks C, "Are A and B of the same type?"

(What does C answer?)

11. In this example, there are three people on the island: A, B, and C.

A says: "B is a Knave."

B says: "A and C are the same type."

(How many of the three are Knights?)