

Thinking about Thinking

Two students, A and B , are chosen from a math class of highly logical individuals. They are each given one positive integer. Each knows his/her own number, and is trying to determine the other's number. They are informed that their numbers are consecutive. In each of the following scenarios, what can you deduce about the two numbers?

1. First Scenario

A: I know your number.

B: I know your number.

2. Second Scenario

A: I don't know your number.

B: I know your number.

A: I know your number.

3. Third Scenario

A: I don't know your number.

B: I don't know your number.

A: I know your number.

B: I know your number.

4. Fourth Scenario

A: I don't know your number.

B: I don't know your number.

A: I don't know your number.

B: I don't know your number.

A: I know your number.

B: I know your number.