

A curious ball game

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We present a ball game demonstrating a possible gap between truth and provability in Arithmetic. The puzzle is solved by using König's lemma on infinite trees. Further formalization leads to Tarski's inexpressibility of truth, Gödel's first incompleteness theorem, and the ω -incompleteness of Arithmetic.

As to the requirement on the audience, we assume no elaborate mathematical background beyond school mathematics. However, one should not be afraid of using logical symbols such as the negation, implies, for all, and there exists.