

**ZMATH 2010c.00570**

**Wanko, Jeffrey J.**

**Japanese logic puzzles and proof.**

Math. Teach. (Reston) 103, No. 4, 266-271 (2009).

Summary: An understanding of proof does not start in a high school geometry course. Rather, attention to logical reasoning throughout a student's school experience can help the development of proof readiness. In the spirit of problem solving, the author has begun to use some Japanese logic puzzles other than sudoku to help students develop additional problem-solving strategies while practicing deductive reasoning. When students are confronted with a logic puzzle for which they have not yet developed strategies for finding a solution, they are forced to put their deductive thinking skills into practice. In this article, the author highlights a few of the puzzle types that are less well known (at least in the United States) and the proof-readiness skills they help develop. He concludes that when students learn to provide deductive arguments for their puzzle-solving strategies, they are laying the foundation for good mathematical practices—in proofs and beyond. (Contains 8 figures and 5 online resources.) (ERIC)

*Classification:* U62 C32 E42

*Keywords:* puzzles; educational games; grade 5; educational experience; learning readiness; prior learning; problem solving; individual development; logical thinking; thinking skills; holistic approach; strategic planning