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Block towers: co-construction of proof.

Maher, Carolyn A. (ed.) et al., Combinatorics and reasoning. Representing, justifying and building isomorphisms. New York, NY: Springer (ISBN 978-0-387-98131-4/hbk; 978-94-007-0614-9/hbk; 978-0-387-98132-1/ebook). Mathematics Education Library 47, 97-104 (2010).

Summary: In previous chapters, we observed elementary school students working to make sense of the towers problems by building representations, formulating conjectures, and defending their solutions in discussions with classmates and researchers. In this chapter, we observe a cohort of high school juniors as they engage in explorations and constructions in the towers problem. During this session, the students found and generalized formulas for solutions to the original towers problem (building towers when selecting from two colors of Unifix cubes) and extensions (with more than two colors of cubes), using methods including controlling for variables, justification by cases, and inductive reasoning. *B. Ruffer-Henn (Böhl-Iggelheim)*

Classification: K24 D54 E54 C34

Keywords: combinatorics; problem solving; conjecturing; justification; proving; reasoning; educational research; grade 11

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