

ZMATH 2008b.00257

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The use of models in teaching proof by mathematical induction.

Johnsen Høines, Marit (ed.) et al., Proceedings of the 28th international conference of the International Group for the Psychology of Mathematics Education, PME 28, Bergen, Norway, July 14–18, 2004. Bergen: Bergen University College. Part IV, 113-120 (2004).

Summary: Proof by mathematical induction is known to be conceptually difficult for high school students. This paper presents results from interviews with six experienced high school teachers, concerning the use of models in teaching mathematical induction. Along with creative and adequate use of models, we found explanations, models and examples that distort the underlying mathematical ideas and show teachers' conceptual difficulties.

Classification: E54 C34 D44 A64

Keywords: proving; proofs; teaching methods; logical thinking; Hanoi towers; mathematical logic; validity; upper secondary

emis:proceedings/PME28/RR/RR249_Ron.pdf