

ZMATH 2001f.05178

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How do mathematics teachers (inservice and preservice) perceive the concept of parabola?

van den Heuvel-Panhuizen, Marja, Proceedings of the 25th conference of the International Group for the Psychology of Mathematics Education. Vol. 4. , (ISBN 90-74684-16-5). 169-176 (2001).

The study described in this paper examined mathematics teachers' (inservice and preservice) knowledge regarding the concept of parabola. The participants (33 preservice and 21 inservice) were asked to perform two tasks: in the first one they were given four different verbal definitions of sets of curves, and for each definition they were asked to sketch a curve, which they believed, compatible with the definition, and to describe its properties. In the second task the participants were asked to sketch a Venn-Diagram in order to describe the logical connections between the four sets of curves, which were formed by the four definitions that appeared in the first task. All the definitions concerned the parabola. The results show that only a few possess a full concept image concerning the parabola and thus a few of them are capable of perceiving the parabola in its algebraic as well as in its geometrical contexts or to identify links between them. (orig.)

Classification: G79