

Stefano Barbero, Umberto Cerruti, and Nadir Murru  
*Solving the Pell Equation Via Rédei Rational Functions*,  
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**Abstract**

In this paper, we define a new product over  $\mathbb{R}^\infty$ , which allows us to obtain a group isomorphic to  $\mathbb{R}^*$  with the usual product. This operation unexpectedly offers an interpretation of the Rédei rational functions, making more clear some of their properties, and leads to another product, which generates a group structure over the Pell hyperbola. Finally, we join together these results, in order to evaluate solutions of the Pell equation in an original way.