

Year: 1999	Vol.: 54	Fasc.: 1-2
------------	----------	------------

Title: Pell numbers, squares and cubes

Author(s): Paulo Ribenboim

We consider the sequence of Pell numbers U_n ($n \geq 0$) and of associated Pell numbers V_n ($n \geq 0$) and we determine the finitely many indices n such that $U_{2n+1} = x^3 \pm 1$, $U_{2n} = x^3 \pm 2$, $V_{2n+1} = x^3 \pm 2$, or $V_{2n} = x^3 \pm 6$. We obtain results about the square classes in these sequences. We also show, among other facts, that for odd n , $U_n \neq \square \pm 1$ (except for $n = 3$), $U_n \neq \square \pm 5$, $V_n \neq \square \pm 2$ (except for $n = 3$), $V_n \neq \square \pm 14$. For even n , we show that $U_n \neq \square \pm 2$, $V_n \neq \square \pm 6$. Concerning cubes, we show for all n that $V_n \neq C \pm 2$ (except for $n = 2$), for odd n , $U_n \neq C \pm 1$ and for n even, $U_n \neq C \pm 2$, $V_n \neq C \pm 1$, $V_n \neq C \pm 6$.

Address:

Paulo Ribenboim

Department of Mathematics and Statistics

Queen's University

Kingston, Ontario K7L 3N6

Canada