University of Colorado

Department of Mathematics

Problem of the Month

November 2014

Let $u_1 = 1, u_2 = 0, u_3 = 1$ and let $u_n = u_{n-2} + u_{n-3}$ if $n \geq 4$. Show that both $u_{2n} - u_{n-1}^2$ and $u_{2n+1} - u_{n+1}^2$ are divisible by u_n.