Abstracts and table of two papers submitted
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Abstract

We give several related constructions of integer sequences that are based on certain divisibility properties of integers substituted into integral polynomials. The first construction in theorem 1 uses integer polynomials of arbitrary degrees, while the other construction in theorem 2 is concerned with quadratic polynomials. There are quite a few known cases of OEIS examples covered by these constructions, but also many new integer sequences seem to arise. We show that in the case of quadratic polynomials such sequences satisfy an inhomogeneous $2-$term recurrence, and discuss several interrelations and applications of these recurrences.
Applications to quadratic division systems as well as tables relating to OEIS are given in the end.

Abstract

The solutions of biquadratic division systems with highest and lowest coefficients unity are classified in terms of their divisants and their reduced solutions. The structure of the sequences of their solutions is described, and some enumeration results are given.

The following table lists the values Δ of different sequences for the division systems $y \mid x^2+ax+1, x \mid y^2+cy+1$.

$a\backslash c$	0	1	2	3	4	5	6	7	8
0	3	4	$3,4,5$	6	$5,7$	$4,8$	$3,6,9$	$6,10$	$5,7,11$
1	4	5	$3,5,6$	7	$6,8$	9	$4,7,10$	$3,7,11$	$8,12$
2	$3,4,5$	$3,5,6$	$3^2,4^2,6^2,7$	$3,7,8$	$3,4,5,7,8,9$	$3,4,5,9,10$	$3,4,6,8,10,11$	$3^2,4,5,8,11,12$	$3^2,4^2,6,7,9,12,13$
3	6	7	$3,7,8$	9	$8,10$	11	$9,12$	$9,13$	$4,10,14$
4	$5,7$	$6,8$	$3,4,5,7,8,9$	$8,10$	$9^2,11$	$6,10,12$	$5,10,11,13$	$10,12,14$	$3,7,11,13,15$
5	$4,8$	9	$3,4,5,9,10$	11	$6,10,12$	$5^2,13$	$4,7,11,14$	$11,15$	$6,8,12,16$
6	$3,6,9$	$4,7,10$	$3,4,6,8,10,11$	$9,12$	$5,10,11,13$	$4,7,11,14$	$12^2,15$	$5,6,12,13,16$	$5,8,13,14,17$