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Game values of arithmetic functions

Arithmetic functions in Number Theory meet the Sprague-Grundy function from Combinatorial Game Theory. We study a variety of normal-play games induced by standard arithmetic functions, such as divisors, remainders and relatively prime numbers, and their negations. For the ruleset induced by the division algorithm, we prove that the relative Sprague-Grundy values tend to 0 with increasing heap sizes. Preprint at https://arxiv.org/pdf/2101.07608.pdf