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**ON SOLVABLE POLYNOMIAL EQUATIONS OVER \mathbb{Z}_n
AND SOME REMARKS ON ZERO-PRESERVING
POLYNOMIALS OVER A RING R WITH $J(R)^2 = 0$**

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In the first part of this work we consider equations of the form $f = 0$, where f is a univariate polynomial over the ring $(\mathbb{Z}_n, +, \cdot)$. We will be able to characterize all polynomials f for which the equation $f = 0$ has got a solution (in \mathbb{Z}_n itself or in a ring-extension of \mathbb{Z}_n).

In the second part we will have a look at polynomials over a ring R , where the Jacobson radical $J(R)$ to the square is 0. We will see that all zero-preserving polynomials over R restricted on $J(R)$ are endomorphisms on $J(R)$. Moreover, we will see under which conditions all endomorphisms on $J(R)$ can be written as zero-preserving polynomials over R restricted on $J(R)$.