

SMARANDACHE IDEMPOTENTS
IN FINITE RING Z_n
AND IN THE GROUP RING $Z_n G$

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In this paper we analyse and study the Smarandache idempotents (S-idempotents) in the ring Z_n and in the group ring $Z_n G$ of a finite group G over a finite ring Z_n . We have shown the existence of Smarandache idempotents in the ring Z_n when $n = 2mp$ or $3p$, where p is an odd prime greater than three. Also we have shown the existence of Smarandache idempotents in the group rings $Z_2 G$ and $Z_2 S_n$ where $n = 2mp$ where p is a prime of the form $2m_{t+1}$. We have proved over ten theorems in this paper. Further we propose some number theoretic problems.