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OPERATIONS WITH THE PERIODIC DECIMAL EXPANSIONS

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Mathematics

**Abstract:** In this paper, we prove the rules of direct addition and subtraction for the finite decimal expansions of fractions which are periodic. It has been shown that these rules are valid for the fractions which can be expanded as a periodic decimal with  $p$  figures in the period or have the mixed decimal part containing  $n$  non-periodic and  $p$  periodic figures. Also, it has been given a rule of multiplication for these periodic decimals by  $10^p$ ,  $n \in \mathbb{N}$ . Last of all, if a rational fraction has a period of length  $p$ , then it can be expressed by a decimal expansion, containing  $np$ -periodic figures, where  $n$  denotes the number of repetition of  $p$ -periodic figures.

 [Keywords](#)  
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