

F. T. Howard and Curtis Cooper  
*Some Identities for  $r$ -Fibonacci Numbers*,  
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**Abstract**

Let  $r \geq 1$  be an integer. The  $r$ -generalized Fibonacci sequence  $\{G_n\}$  is defined as

$$G_n = \begin{cases} 0, & \text{if } 0 \leq n < r - 1; \\ 1, & \text{if } n = r - 1; \\ G_{n-1} + G_{n-2} + \cdots + G_{n-r}, & \text{if } n \geq r. \end{cases}$$

We will present several identities and congruences involving  $r$ -generalized Fibonacci numbers.