

A Family of Optimal Fourth-order iterative method for multiple roots

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Abstract

There is very few literature on higher order iterative methods for solving nonlinear equation with multiple roots with multiplicity m . The main aim of this paper is to develop a new fourth order family of methods with the help of well known third order iterative methods such as Chebyshev's and Halley's method for finding multiple roots of nonlinear equations. The convergence analysis of proposed method discussed. Finally, consider some real-life situations for establishing some numerical experiments to corroborate the theoretical results.

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