

Empirical study of the rate of convergence of some Newton type methods

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ABSTRACT.

In this paper an empirical study of the rate of convergence of some Newton type methods is made. It is originating in the formula

$$x_{n+1} = x_n + \frac{2f(x_n)}{f'(x_n) + M_n}, \quad x_0 \in [a, b] \text{ prechosen, } n = 0, 1, 2, \dots,$$

where

$$M = \sup_{x \in [a, b]} |f'(x)|, \quad M_n = \text{Sign} f'(x_n)$$

Some numerical examples to illustrate the study are also given.

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