

## NEW IMPROVED NEWTON METHOD WITH $(K+2)$ ORDER CONVERGENCE FOR SOLVING QUADRATIC EQUATIONS

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### ABSTRACT

The objective of this paper is to define a new improved Newton method for finding simple roots of quadratic equations. It is proved that the new two-point method has the convergence order of  $(k+2)$  requiring only two function evaluations per iteration, where  $k$  is the number of terms in the generating series. It is observed that our proposed method is very simple to construct when compare to the Babajee's and Ahmad's two-point method.

**Keywords:** Newton method; Quadratic equations; Kung-Traub's conjecture; Efficiency index; Optimal order of convergence.

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