

# A New Fixed Point Iteration

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**Abstract**—*In this paper, we introduce a new three-step iteration process in the setting of Banach space and prove strong and weak convergence results for approximating fixed points for nonexpansive mappings. Also, we show that the newly introduced iteration process converges faster than a number of existing iteration processes.*

**Keywords:** *Nonexpansive mappings, fixed point, Strong and weak convergence theorems, nonexpansive mapping.*

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