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EXISTENCE AND UNIQUENESS OF FIXED POINT FOR NEW CONTRACTIONS IN RECTANGULAR b-METRIC SPACES

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Abstract: In this article, we give some new examples of rectangular b-metric spaces which are neither rectangular metric space nor metric space. After that we prove existence and uniqueness of new fixed points for some new contractions in rectangular b-metric spaces. Then we validate these results with suitable, appropriate and innovative examples.

Keywords and Phrases: Rectangular b-metric space, rectangular metric space, b-metric space, fixed point, contraction mapping.

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1. Introduction

The basic result of fixed point theory of Banach contraction principle was given by Banach in 1922, which was extended in many ways. After this fundamental contraction principle, several generalized forms of metric spaces were introduced by various mathematicians (see [2], [3], [6], [7], [9]-[12]).

In 1989, Bakhtin [1] introduced b-metric space and Czerwik, S. [5] presented some generalizations of well known Banach's fixed point theorem in so-called b-metric spaces. He proved the following result: Let (X, d) be a complete b-metric