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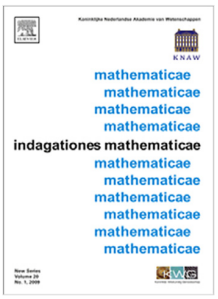

Comment on: A new fixed point theorem in the fractal space

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COMMENT ON: A NEW FIXED POINT THEOREM IN THE FRACTAL SPACE

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Abstract. In this paper, we give a counterexample to Lemma 2.2 proved by Song-il Ri [A new fixed point theorem in the fractal space, Indagationes Mathematicae 27 (2016) 85-93]. Further, we improve the result of Song-il Ri by employing a proper setting.

1. Introduction

In order to avoid repetition we adopt the same terminology and the notations as have been utilized in [5].

The following theorem is essentially proved in [5].

Theorem 1.1. *Let (X, d) be a complete metric space and f be contractive map in the following sense: there is a function $\varphi : [0, \infty) \to [0, \infty)$ such that $\varphi(t) < t$ and $\limsup_{s \to t^+} \varphi(s) < t$ for all $t > 0$ and*

$$d(fx, fy) \leq \varphi(d(x, y)), \text{ for any } x, y \text{ in } X.$$

Then f has a unique fixed point.

To prove Theorem 1.1 (above), the author utilized the following lemma (Lemma 2.1 [5]):

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