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Correction

Correction: Ali, M., *et al.* Study on the Development of Neutrosophic Triplet Ring and Neutrosophic Triplet Field. *Mathematics* 2018, 6, 46

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We have found the following errors in the article which was recently published in Mathematics [1]:

1. In Example 1, 3 gives rise to the neutrosophic triplet (3, 3, 3). However, 3 has two neutrals: *neut(3) = {3, 5}*, but 3 does not give rise to a neutrosophic triplet for *neut(3)= 5*, since *anti(3)* does not exist in $\mathbb{Z}_6$ with respect to *neut(3) = 5*.

2. In Example 2, $\mathbb{Z}_{10}$ is not a neutrosophic triplet group. 7 is the classical unitary element of the set $\mathbb{Z}_{10}$. Therefore $\mathbb{Z}_{10}$ is a neutrosophic extended triplet group.

3. In classical ring theory, for any ring $(R, +, .)$, 0 is the additive identity element. However, in a neutrosophic triplet ring $(N, *, \#)$, 0 is an ordinary element and the element 0 is not used in definition. Also N may not have such an element. So, in Definition 8 and subsequent parts of the paper, when using the element 0, the element 0 should be defined.

4. In classical ring theory, for any ring $(R, +, .)$, $n{\cdot}a$ is defined by $a + \ldots + a$ and a^n is defined by $a \ldots a$ (n times). In neutrosophic triplet ring (NTR), we do not know the definition of a^n. So before Definition 11, the element a^n should be defined.

5. For the proof of Theorem 3, Theorem 1 was used. So Theorem 3 must satisfy the hypothesis of Theorem 1. Also according to definition of a^n, Theorem 3 should be rewritten.

6. Proposition 1 and its proof are not true. The sentences "if a is not a zero divisor, so a is cancellable" and "if a is cancellable, a is not a zero divisor" are not true. These statements cannot be obtained from the given definitions and theorems.

7. The set *P(X)* in Example 3 is not neutrosophic triplet field. *P(X)* has identity elements *X* and $\varnothing$ for the operations $\cup$ and $\cap$, respectively. Therefore *P(X)* is a neutrosophic extended triplet group.

8. The counterexamples given for Theorem 5 do not satisfy the distributive law since $1\#(1*2) \neq (1\#1)*(1\#2)$.

9. In the proof of Theorem 6, the set N is not NTF since $5\#(5*5) \neq (5\#5)*(5\#5)$.

10. The proof of Theorem 7(2) is not true. If $c \in U$, then $f^{-1}(c)$ is a set. If f is not a function, $f^{-1}(c)$ can be equal to an empty set. Then $f^{-1}(c) * f^{-1}(d)$ is not in $f^{-1}(U)$. We can prove it by the following:

Let $a, b \in f^{-1}(U)$. Then $f(a), f(b) \in U$ and $f(a) \oplus f(b) = f(a * b) \in U$. Hence we get $a * b \in f^{-1}(U)$. The proof of $a\#b \in f^{-1}(U)$ is similar. Also, since $f(a) \in U$ and $neut*(f(a)) = f(neut*(a)) \in U$, we have $neut*(a) \in f^{-1}(U)$. The proof of $neut^{\#}(a) \in f^{-1}(U)$ is similar.

11. The proof of Theorem 7(3) is not true. If $i \in I$ and $r \in NTR_2$, then $f^{-1}(i)$ and $f^{-1}(r)$ is a set. If f is not a function, $f^{-1}(i)$ and $f^{-1}(r)$ can be equal to an empty set. Then $f^{-1}(i) * f^{-1}(r)$ is not in $f^{-1}(I)$. We can prove it by the following:

Let $a \in f^{-1}(U)$ and $r \in NTR_1$. Then $f(a) \in I \text{ and } f(r) \in NTR_2$ and $f(a) \oplus f(r) = f(a * r) \in I$. Hence we get $a * r \in f^{-1}(I)$. The remaining part of the proof is similar.

12. The proof of Theorem 7(4) should be proven as the following:

Let $j \in f(J)$ and $r \in NTR_2$. Since f is onto, then $\exists h \in J$ exists such that $f(h) = j$ and $\exists s \in NTR_1$ such that $f(s) = r$. Then $h * s \in J$ and we get $f(h * s) = f(h) \oplus f(s) = j \oplus r \in f(J)$.

Reference

1. Ali, M.; Smarandache, F.; Khan, M. Study on the Development of Neutrosophic Triplet Ring and Neutrosophic Triplet Field. *Mathematics* **2018**, *6*, 46. [CrossRef]