

# 1. Introduction

The first part of the paper is devoted to the study of the properties of the function  $f(x)$  defined by the equation

$$f(x) = \frac{1}{2} \left( f\left(\frac{x}{2}\right) + f\left(\frac{x}{4}\right) \right) + \frac{1}{4} \left( f\left(\frac{x}{8}\right) + f\left(\frac{x}{16}\right) \right) + \dots$$

Keywords: function, series, convergence, properties

The function  $f(x)$  is defined for all real numbers  $x$  and satisfies the functional equation  $f(x) = \frac{1}{2}(f(\frac{x}{2}) + f(\frac{x}{4})) + \dots$ . It is clear that  $f(x)$  is a continuous function. We shall show that  $f(x)$  is a linear function. Let us assume that  $f(x) = ax + b$ . Then  $f(\frac{x}{2}) = a\frac{x}{2} + b$  and  $f(\frac{x}{4}) = a\frac{x}{4} + b$ . Substituting these into the equation, we get  $ax + b = \frac{1}{2}(a\frac{x}{2} + b + a\frac{x}{4} + b) + \dots$ . This implies  $a = 0$  and  $b = 0$ . Therefore,  $f(x) = 0$  for all  $x$ .

The function  $f(x)$  is also a linear function. Let us assume that  $f(x) = ax + b$ . Then  $f(\frac{x}{2}) = a\frac{x}{2} + b$  and  $f(\frac{x}{4}) = a\frac{x}{4} + b$ . Substituting these into the equation, we get  $ax + b = \frac{1}{2}(a\frac{x}{2} + b + a\frac{x}{4} + b) + \dots$ . This implies  $a = 0$  and  $b = 0$ . Therefore,  $f(x) = 0$  for all  $x$ .

## m

The function  $f(x)$  is also a linear function. Let us assume that  $f(x) = ax + b$ . Then  $f(\frac{x}{2}) = a\frac{x}{2} + b$  and  $f(\frac{x}{4}) = a\frac{x}{4} + b$ . Substituting these into the equation, we get  $ax + b = \frac{1}{2}(a\frac{x}{2} + b + a\frac{x}{4} + b) + \dots$ . This implies  $a = 0$  and  $b = 0$ . Therefore,  $f(x) = 0$  for all  $x$ .

1. Introduction  
2. Properties of the function  $f(x)$   
3. Conclusion

ssr <sup>s</sup> r s n n <sup>r</sup> ns <sup>r</sup> alls i n's n s  
r <sup>u</sup> n r <sup>u</sup> n ff rs n i n' <sup>u</sup> s f  
s r n r s n n n n n' <sup>u</sup> n r <sup>u</sup> n n n  
f <sup>r</sup> s <sup>r</sup> n n s ( n' s r & n 2  
<sup>r</sup> n' r ( 2 2 ) r n n s <sup>r</sup> b <sup>u</sup> n ns i  
n's s s r s n r r s <sup>r</sup> f i s ns n r  
<sup>r</sup> n' n n n n n n' <sup>r</sup> n ff rs i <sup>u</sup> s  
<sup>r</sup> s i <sup>r</sup> s ns b i r <sup>u</sup> s i ns n <sup>r</sup> n s n ns i  
ns r ss n i s n b r s

m <sup>r</sup> h n <sup>r</sup> n ▲

ns n' r ss i s n' r i n <sup>u</sup> n  
f i n n r s ns i n ff is <sup>r</sup> s r ss <sup>u</sup> s  
s n i s f i n n ff is n i  
b s <sup>r</sup> s i s n s s i r <sup>u</sup> r ns  
n r i f i s ( n' 2 i r 2 2 )  
r ( 2 2 ) n f <sup>r</sup> s <sup>u</sup> f i f <sup>r</sup> s  
i n n n r r ss s r r r n  
s f i r n s i r i b <sup>r</sup> n' i n b ns <sup>u</sup> n  
( 2 )

•

... n n s r ss n r s r n s ff (r  
r s s s n r s r n s n s r s ff )

As a result, the system is not as efficient as it could be.

ss. ns (l n' r2 ) n . . n b' . n' . . n . n n  
nn' . . . s ns r' . . r . ns r n' / n  
n n' r ss f r . n r . n' . . s ns  
r . . r . . r b' . r . n  
s . r . . s b s' s n . r' r r r' r  
l . s . r r f i' . r n  
r . . r n s . n' f i' . n f i s n  
s n r r' n' s . n' . r n' s s . r . r f i  
n' . r r . n r . r n n n r . s n b  
r . n' ns . n ( ) s . " i s b  
n s . r s . ns . n n s s . r n "

( s ) 2 ) Why aren't we there yet? Taking personal responsibility for creating an inclusive campus. Sterling  
( s ) 2 ) . s r r' . r f' n' n' .  
( s ) Confronting equity issues on campus: Implementing the equity scorecard in theory and practice ( . - )  
( s ) . r n s' r  
ns . n . b s' n Diversity & Democracy 19 ( ) -  
s . n ( ) Leading towards a multicultural educational environment n . s . f i m n . 2  
n f r b n . n . s . f i' m f i m . ( n ) Equity mindedness . s . i s i b i . n n s  
( ) f r n' . " n' r b' r' .  
r . n r n r . The Review of Higher education 41 ( ) - 2  
s . n . r 2  
( ) . n' n . ns . b s . n n m . ns  
n s' ns . s . The Journal of Higher Education 87 ( ) 2 . s . v . 22 . 2  
2  
r r J & r ( 2 ) s n f r . n' r  
n . The Delphi Project on the Changing Faculty and Student Success

n n

n f i s . r ns r n r . n r s n' s i ns'  
s ns f b n' n' r . n' . s . s i . r s n r s n  
n r s n' s i n n' / n n / n s r s i n  
f i s' s' r s . ns . b . r ss . s i f i n . n r r  
s f i . s . r s s' f i n' i s . ns  
• . n . r . n s' r i'  
r r v n . n  
• . r . b f i r s r .  
n n' n r v n . ns' nn' . s i n  
ns r ns  
• . b n f r r s f i r r  
n r s s n r b r s  
• . n s . r r . s  
f i n n . f i s r s s n . s . n  
n f i s i n f i s  
n . r s s n . n . s . s . n  
r . n s n r . n . r r . n . r i n' s s s  
f i r s s . n n' r . s s . r i' n' n .  
r s s . r . ns s . r n . r n  
s . j s . n . r n s s n s . s . r r f i  
s n' n' . n r . r f i . n r s i n' n n' b  
s n r n' r . b r s f i r v n . s i ns  
s . r n s r . n s n . r ns r s s  
i s i s r s r n' . n r n s' s b' b r  
ns n n' b . n s i n f i s i' r s s  
s . f i r . b r . n r r' r i' s s s  
f i' r . n s . n . n . n . n .  
i s s

Journal of Diversity & Inclusion | 2020 | Multicultural  
competence in student affairs: Advancing social justice and inclu-  
sion | 1

Journal of Diversity & Inclusion | 2020 | Multicultural  
competence in student affairs: Advancing social justice and inclu-  
sion | 1 | Social Innovations  
Journal 6