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MATHEMATICS, AN IRREPLACEABLE CHIEVEMENT WITH NO EXPIRATION DATA

MARYAM ALIPOUR[✉] AND OMID ZABETI^{✉*}

ABSTRACT. Undoubtedly, what introduces mathematics as the queen of human sciences and distinguishes it from all sciences is the existence of the essence of freedom in meaning and Its meaning is In other words, the role of mathematics in the universe is the discovery of tools and features of the secrets of the natural world, which is important in two ways: 1. It confirms and interprets all scientific theories. 2. It has a deep, profound and basic view of all issues. In this article, we try to look at the irreplaceable applications of mathematics from another angle. How mathematics has a tremendous impact on our lives moment by moment and leads us towards the true meaning of life. In fact, we try to express and interpret the applications of the irreplaceable role of mathematics in intellectual, analytical and skill abilities by relying on general mathematics materials, which is considered a basic course in most scientific fields. The main goal of this article is concrete promotion of mathematics.

1. Introduction

Let us start with some motivation. It is obvious that science, in general, has been discovered and obtained over years to make life easier and more enjoyable, so that every science should have a real meaning to our life. Now let us focus on mathematics as the fundamental of all the sciences. The first key point here is that we do not obtain mathematics but we just discover it; in fact, mathematics, with many invaluable notions, really exists in the universe, just, we do need to discover it. In the language

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*Corresponding author.

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of examples, mathematics is an invaluable treasure in a sunken ship in the deepest part of the ocean of awareness.

The idea of writing this paper appeared to provide an answer to this basic question. Where is mathematics in our lives and why is it important? To answer this question in everyday life, let us enter the world of general mathematics and its concepts. For undefined terminologies as well as the related concepts, see [1, 2, 3, 4, 5].

2. Main Results

2.1. Functions. As we mentioned before, the function is one of the most important parts of mathematics. Math without function is almost null; most of the useful objects in mathematics are functions in their own nature. A function from a set A into B is a collection of ordered pairs in which no two ordered pairs have the same first components. This is the best way to make value of the output of the function! Again, as we said before, our mind is a function. We send thoughts (as the input) and we receive behavior (as the output); but why function? Note that every person has a unique mind so that by the same thoughts, we can not have two different behaviors in one person! Sometimes, we need to filter some news, sometimes, we need to use the cancellation law for bad memories. Nevertheless, this function (our mind) has many advantages; more than what we can think. Before that, let us explain some important functions in our life. The most important function in our life is the function of the events and our reactions to them in terms of the time (during our life). Every person has a unique function (we call this function “the life’s function”). Everyone is born with certain achievements (rich, poor, healthy, unhealthy, country and, so on). Now, the story begins. We react to events and the result will be an event again and a Domino starts.

In the graph of the function of our life, variation of the events and our reactions to them in terms of time is our achievements. When we are either increasing our ideas or considering positive actions, the graph is increasing so that we achieve success. On the other hand, while we are either considering negative actions or we stand in the wrong way, the graph is decreasing: we obtain failure. Sometimes, we need to change the type of function so that we immigrate from a decreasing graph to an increasing one!

2.2. Continuity. As you know, again, from calculus, continuous functions have many important properties (in pure mathematics as well as in applied one); from the elementary stages until the highest one. But how can we use this lovely notion of mathematics in our life? Let us explain more with different levels. Continuity means that on the way to a goal, we never give up; for sure, it is possible, sometimes, that we need to stop to renew our abilities for doing work and then continue. Continuity tells us that if we propose a goal, all of our thoughts and our eagerness must be in the way of that. No disappointment should penetrate our soul. We must continue. Having a limit, just, means approaching to a target but not necessarily reaching it. It is likely possible that there are a huge gap between the limit of a function

and the real amount of it. This means that our efforts do not usually get the target (it can be really closed or maybe far from the real target). Nevertheless, continuity is an fruitful option. While a graph is continuous, this means that we got the assumed target. Continuity, here, means having a particular program with a suitable passion to reach the target. In calculus one, we have the mean value theorem which asserts that when we have a continuous function on an interval $[a, b]$, for every element between $f(a)$ and $f(b)$, there exists $c \in (a, b)$ such that $f(c) = k$; in other words, f admits the mean values in every point. Consider our targets in terms of our thoughts; we are not kidding, it is a function again (because our mind is unique). If we have a continuous function, it means that if we have a continuous thought, for every target, there exists a thought (a solution). This is the importance of continuity in our thoughts. If our thoughts are discontinuous (there are many jumps, irregularities, and so on), we can not focus on our target so that there is not a reasonable and practical solution for any problem. The interesting point here is that the function of our targets in terms of our thoughts is one- to- one. Therefore, our thoughts are a function in terms of our targets. More precisely, when we obtain some goals, this means that we have several achievements. This implies that we have changed our orbits. In this situation, our thoughts have been changed. In other words, although our targets depend on our thoughts, after a while, our thoughts will be a function of our goals.

2.3. The sequence and the series of our life. As we mentioned before, every person defines a unique function in their life; the function of events and reactions to them in terms of the time. But it is worthwhile to know that we do have a unique sequence and a unique series in our life, certainly. Of course, this sequence is compatible with the function of our life. In the following, you can see the life graphs of two different persons; the first one is a moody person who does not focus on a certain target and there is no confidence while walking through the road. The second one is very confident while walking. This person knows that if we need good achievements, we must try to pursue the goal with our best; believing this fact: No pain, No gain. Now, consider the sequence of life. In this sequence, we just consider the most important and the most effective parts of our life. For example, when you are doing a B. Sc degree, the most achievement in the four years is the degree; of course, we may have very different achievements (success or failure) but the main goal is the degree, formally. The points of the sequence will have the most effect in our life. It is possible to have many failures during our life and then get successful but if we have several “bad points” in the sequence in our life, we will be far away from our real capacity to do our determined dues in life. Every person has a capacity, talent, and mind; these three items help her/him to make her/his fate. In other words, every person in her/his life has a unique impact; if a person has self-awareness and tries to make his life better and more positive, this means a better impact. Observe that there are many items that have an effect on this impact, such as walking through our talents, considering the soft skills, and so on. But what does this “impact” mean in the graph of our life? It is a very important question. The “right” answer is “integral”. Consider the following graphs for a better understanding.

Everyone of us has a unique series in our life which is the sum of the sequence of our life! As we said before, we have some points in our life (which have the most impact on our fate); we call it the sequence of our life. Now, the sum of these elements is called the series of our life. This series is sometimes convergent (for relatively successful persons) and is divergent (for relatively unsuccessful persons). As you know from calculus, while we have an alternating series, we have two types of convergences: absolute value convergence and conditional convergence. The former one is dependent on the intrinsic smallness of the sentences of the series, with any permutation, the sum does not change. Nevertheless, while a series is conditionally convergent, it is dependent on the advantage of the order of lying the pm elements; it is enough to change this order, we shall have a different sum and the worst: a divergent series! Now, let us come back to the lovely series in our life. Most people have an alternation series (consider successfulness as a positive term and unsuccessfulness as a negative term). It is evident that we do not have just successfulness so that the series is alternating. If we are relatively successful person (the best definition will come soon!), this series is convergent; but what type of convergence? If we obtain success in terms of our mind, our attempts, our confidence, and so on, this means an absolutely convergent series. Any permutation, any change does not affect our achievements. On the other hand, if we obtain the successfulness by chance (we mean by using connections, unfair, and so on), it does not converge absolutely but conditionally. So, the result: if we lose the connection, if the situation changes, the successfulness will convert to the unsuccessfulness.

2.4. Derivation. The derivative is defined as the rate of change of one quantity with respect to another. Our life (events and our reaction to events) in terms of time forms exactly the function of our life. That means each of us records a unique graph in our life. Derivative of our life function shows our successes and failures. In the graph of the function of our life, variation of the events and our reactions to them in terms of time is our achievements. When we are either increasing our ideas or considering positive actions, the graph is increasing so that we achieve success. On the other hand, while we are either considering negative actions or we stand in a wrong way, the graph is decreasing: we obtain failure. When our life graph is horizontal it means that life is a daily routine and we don't have any success or failure. In this case, the life graph's derivative is zero.

The Mathematical formula based on derivative for the rate of changes in events and reaction to these events in terms of time is as follows:

$$\text{Success or failure} = \frac{\text{the rate of changes in events and reactions}}{\text{time changes}}.$$

Another interesting point about the combination of mathematics and self-awareness is the discussion of the second derivative. As we said, success or failure is a derivative of events and reactions over time. But the extent of success changes or failure is equal to the direction of our life curve over time.

2.5. inflection point. The diagram of every human being's life has various directions in different time periods. Sometimes it is upward (positive) and sometimes it is downward (negative). You must have heard or even experienced many times that an event or reaction to that event has changed a person's life.

For example, in the story of Jean Valjean, the priest's forgiveness of his sin and preservation of his reputation changed the direction of his life and made him a very useful and helpful human being. We call such an event an inflection point. In fact, the inflection point in life is when you decide to change completely, as in the story of Jean Valjean.

3. Conclusions

Our goal in presenting this article was to show the application of mathematics in all dimensions and aspects of our lives. As seen in the article, most of our daily activities have mathematical analysis, and in fact, there are mathematical applications that we do not pay attention to. One of the jobs we are going to do in the future is soft skills with mathematical analysis, which are one of the most important aspects of every person's life that improves family life, career advancement and success in life.

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Maryam Alipour

Department of Mathematics, University of Sistan and Baluchestan, P.O.Box 98167-674, Zahedan, Iran

Email: m.alipour1983@gmail.com

Omid Zabeti

Department of Mathematics, University of Sistan and Baluchestan, P.O.Box 98167-674, Zahedan, Iran

Email: o.zabeti@gmail.com