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Mathematical Patterns in Surah Al-'Alaq 1-5

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ABSTRACT

Qur'an is a reference for all numbers such as odd and even. Even odd numbers are numbers that Allah SWT likes and even numbers are the complement of odd numbers. The Qur'an contains many miracles including the miracle of the number 19 and many letters that describe the pattern of multiples of 19 in terms of words, letters and verses, one of the letters related to the number 19 is Surah Al-'Alaq. This study aims to find mathematical patterns and the meaning of numbers contained in Surah Al-'Alaq verses 1-5. Surah Al-'Alaq verses 1-5 were chosen because they have content and privileges. Al-'Alaq is the first revelation of the Nabi Muhammad SAW, this letter has hidden messages and values of education, divinity, and reasoning. So that humans can continue to learn and understand what they do not know. This type of research is descriptive qualitative which reveals the mathematical patterns contained in Surah Al-'Alaq verses 1-5 described or presented using numbers with the literature study method. The data used are the arrangement numbers in Surah Al-'Alaq 1-5. The results of the study found that there are 5 patterns in Surah Al-'Alaq verses 1-5 and there are multiples of 3. Mathematical patterns are important for understanding, they can help students solve problems and identify relationships in various contexts.

Keywords: *Mathematical Patterns, Surah Al-'Alaq 1-5, Multiples of 3*

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INTRODUCTION

The Qur'an etymologically comes from the word "Qoro'a-Yaqrou-Qiroatan" which means something that is read. This means some advice to Muslims to read the Qur'an. The Qur'an is a masdar form of qiroah which means to collect or gather. In this context, it is related to the Qur'an collecting several letters, words, and sentences neatly and orderly. The Qur'an was revealed to free humans from all dhulumat (which is all dark) towards Annur (which is all bright) according to the rules of your Lord (bi idznillah) towards the path of Al-Aziz (the authoritative), Al-Hamid (the praiseworthy) (Cahyana, 2010). The Qur'an was given to the prophet Muhammad for wisdom and knowledge, as in the word of Allah Qs. An-Naml [27]: 6 "And indeed you are given the Qur'an from the side of (Allah) the All-

Wise, the All-Profound in His knowledge". Allah sent down His revelation by sending apostles to His people to worship and as a guide to life, says Allah Qs. Al-Jasiyah [45]:20 "This Al-Qur'an is a guide for humans, guidance and mercy for those who believe" and the first revelation of the Al-Qur'an is surah Al-Alaq 1-5.

According to Abdussakir (2006) the Al-Qur'an is a miracle that was revealed to the Prophet Muhammad SAW through the intermediary of the angel Gabriel, which was written in a mushaf and narrated mutawatir and reading it can be worth worshiping. The miracle of the Qur'an lies partly in its fashahah and balagoh, the beauty of its style and language structure, and its unrivaled content. The Qur'an challenges the jinn and humans to create something like the Qur'an. The challenge to create something similar to the Qur'an is found in Surah Al-Isra: 88: "Say: Indeed, if humans and jinn gathered to create something similar to this Qur'an, then they could not make it even if they helped each other." The next challenge is to make just one letter which is found in Surah Al-Baqarah: 23: "And if you (remain) in doubt about the Koran that We revealed to Our servant (Muhammad), make [31] one letter (only) like the Koran and invite your helpers apart from Allah, if you are truthful people." Based on the challenge of making a letter, humans are guaranteed not to be able to make it. Researchers wonder what is behind one letter and what secrets are contained in the letter Al-'Alaq.

In the development of science, the Qur'an is positioned as a source of qowliyyah verses, while in the results of observations, experiments and logical reasoning it is used as a source of kauniyyah verses. Thus, the branches of science can be searched for their sources in the Qur'an. One of them is mathematics which developed on the basis of and originated from the Qur'an (Ilfiani, 2021). The Qur'an contains some mathematical concepts consisting of the concept of several types of numbers, thus the Qur'an is a general reference for all numbers, even odd and even numbers. Odd and even numbers if you look at the arrangement of the existing numbers and become the will of Allah, the arrangement will always alternate, exchanging between odd and even like day and night. The word of Allah Qs. Al-Fajr: 3 "By the even and the odd" (Srihartono, 2006). 0 1 2 3 4 5 6 7 8 9

If we remember that Allah is odd and likes odd numbers, then Allah's favorite numbers are 1 3 5 7 9. While even numbers are as complementary pairs of odd numbers, in the number Muhammad has an even number, namely he was born on 12 Rabiul Awal and died on 12 Rabiul Awal or April 20. Received the revelation of the Qur'an as many as 114 letters, 30 juz and 6666 verses. Then it was revealed for 22 years, 2 months and 22 days, which is an even number.

0 2 4 6 8

If the numbers above are calculated, it will produce the number 20 which means that the number is an even number. If we also pay attention to the Qur'an, the 20th letter is the letter At-Thoha which means Muhammad. The word of Allah "Thoha (O Muhammad), We have not revealed this Qur'an to you so that you may be distressed". The word Thoha linguistically means purifying and guiding. This is related to the Prophet Muhammad SAW who brought the people to purify themselves from sin and guide them to the right path (Srihartono, 2006). The collection of numbers mentioned are numbers that can be counted, says Allah Qs. Maryam [19]:94 "He (Allah) has truly determined their number and counted them with precise calculations." Apart from that, several references say that the Qur'an contains uncountable numbers such as real numbers, including rational numbers which are part of subsets. Allah's Word Qs. An-Naml[16]:18 "And if you count Allah's blessings, you will certainly not be able to count them. Indeed, Allah is truly Most Forgiving, Most Merciful" (Irawan, W. H., et al, 2015).

Mathematics is a fundamental science in the development of modern technology and plays an important role in advancing human thinking power. Mathematics arises because of human thoughts related to ideas, processes, and reasoning. Mathematics also plays an important role as a symbolic language, because mathematics uses many symbols. Because of the

importance of mathematics, mathematics lessons need to be given to all students through the school process to equip students with the ability to think logically, systematically, critically and creatively analyze, and work skills (Mawaddah, 2017). According to Keith Devlin, mathematics is defined as knowledge about patterns, both numerical patterns, shape patterns, movement patterns, behavioral patterns, and other patterns. Mathematics is not a stand-alone knowledge, but mathematics is a certain tool for humans in understanding and overcoming problems in life. Another reason why we should learn mathematics is because all areas of life require mathematics to develop science, technology, and mathematics itself. The main purpose of mathematics is to develop problem-solving skills, communication skills, and reasoning skills to deal with problems. The potential for thinking and reasoning is highly recommended in the Qur'an. The Qur'an does not only mention mathematics as reading material, but it must also be related to education (mathematics). According to Budi, the benefits of mathematics are important because it is the smartest teacher of reason. So that the verses that mention mathematics in the Qur'an are used as study material for thinking (Lorenza, 2021). The Qur'an also has an interesting phenomenon, namely the miracle of the number 19. Rasyad Khalifa revealed the formula for the number 19 in the Qur'an with various facts and calculations (Yusufa, 2014). The results of his research revealed a pattern related to the number 19, including in the Qur'an the number of letters that describe multiples of the number 19 both in words, letters, and verses such as the number of letters Qof, the number of letters Yaa (Aniswita & Medika, 2017). For example, there are letters that begin with the mention of letters, namely the letters Al-Baqarah, Maryam, As-Sajdah, Nuun, and Qaf. The letter Maryam begins with the letters K, H, Y, 'A, Sh. It turns out that the total mention of these letters in the letter Maryam is 798 times (19x42). The next example, the letter that begins with the mention of the letter Qaaf is the letter Asy-Syuura (42nd letter) and the letter Qaaf (50th letter). In letter 42 the letter Qaaf is mentioned 57 times (19x3) and in letter 50 it is mentioned 57 times (19x3). The total mention of the letter Qaaf in the two letters is 114 (19x6). Letter 42 contains 53 verses, and 42 + 53 = 95 (5x19). Letter 50 contains 45 verses, and 50 + 45 = 95 (19x5). So, the mention of certain letters is regulated by a mathematical pattern, namely multiples of 19 (Abdussakir, 2006). In the hijaiyah letters it is known as numeric value. In Indonesia, numerical values are often called "Abajadun" or alphabet, while in mathematics, numerical values are known as gematrical values. Numerical values are used to identify each letter of its composition, namely by pairing and adding each letter with a predetermined numerical value. The results of these values will be a unique phenomenon in the mathematical patterns in the Qur'an (Abdussakir, 2006). Previous researchers have also revealed several patterns found in short letters, including mathematical patterns in the letters Al-Ashr, Al-Kautsar, and An-Nash conducted by Abdussakir (2006). The study revealed that there were three patterns in the letter Al 'Ashr, one pattern in the letter Al kautsar and five patterns in the letter An Nashr. Then the mathematical patterns in the letters Al-Falaq and An-Naas conducted by Aniswita and Gema Hista Medika (2017) explained that in the Qur'an there is regularity both in terms of language and in terms of numbers. For example, in the Al-Falaq and An-Naas letters which have regularity in the arrangement of their verses. The results of his research revealed 6 patterns in the Al-Falaq letter, 5 patterns in the An-Naas letter and 2 patterns of relationships between the two letters. The mathematical pattern in the Al-Ikhlas letter conducted by Gema Hista Medika (2019) explains that mathematics in the Qur'an uses various aspects of language related to numbers to explain the messages contained in the Qur'an. For example, in the Al-Ikhlas letter, there are repeated words. Here it can be seen that in mathematics the numbers used to compose the Al-Ikhlas letter are one of the forms of the Fibonacci sequence, and the concept of mathematical patterns in the Quraisy letter by Agung Kurniadi and Rora Rizky Wandini (2022) explains the mathematical structure contained in the letter and is related to prime numbers.

From several studies, the researcher is interested in conducting further research on

mathematical patterns in the Qur'an. Therefore, the researcher chose Surah Al-'Alaq 1-5 because not many researchers have revealed the relationship between mathematics and Surah Al-'Alaq. Al-'Alaq verses 1-5 were chosen because they are related to the number 19, when viewed from the order of the letters and the number of words. In addition to having content that requires seeking knowledge, Surah Al-'Alaq was chosen because it contains good messages so that humans can continue to learn and understand what they do not yet know. In the context of mathematics education, learning to read is very important because students will learn about mathematical symbols and notations. Many verses of the Qur'an show that Allah SWT created everything with full provisions and measurements. This can be connected to mathematics lessons which also study concepts. Therefore, this study aims to determine the mathematical patterns and meanings contained in the Al-'Alaq letter 1-5 by calculating the verses, letters, number of words, letters, number of different letters and numerical values.

RESEARCH METHODOLOGY

The type of research used in this study is descriptive with a qualitative approach. According to Rukajat (2018), descriptive research is research that attempts to describe phenomena that occur in a real, realistic, actual and present manner. Therefore, this study contains descriptions, pictures or paintings systematically, factually and accurately regarding the facts, characteristics, and relationships between the phenomena being investigated. So, it can be concluded that the type of research is descriptive qualitative. Various mathematical patterns found in the letter Al-'Alaq 1-5 are described or explained using numbers based on the findings obtained. The research method used in this study is a literature study, a series of activities that contain discussions conducted by previous research and used as scientific references for further research. The primary source of this research is Al-'Alaq verses 1-5. The secondary data sources for this study are scientific books, magazines, articles such as books, and several journals related to mathematical patterns in the Qur'an. The data collection technique used was taken from several literatures such as books, journals, articles and other sources that cover mathematical patterns with the Qur'an. The data analysis technique used by the researcher is a descriptive analysis technique. This means that this descriptive analysis technique is carried out by being presented, tabulated, explained, and interpreted or concluded.

RESULT AND DISCUSSION

Surah Al-'Alaq 1-5 is the 96th surah which consists of 19 verses. The verses of the Al-Qur'an that were first revealed to the Prophet Muhammad SAW were Surah Al-'Alaq verses 1-5. Al-'Alaq letter consists of 4 letters with 2 lamps and its numerical value is 231, the letters that make up its name are:

ا = 1, ل = 30, ع = 70, ق = 100

The following is the content of Al-'Alaq letter 1- 5:

And the Messenger of Allah (peace and blessings of Allah be upon him) said: God willing God bless you

In Surah Al-'Alaq 1-5 there are 19 words, including: verse 1 contains 5 words, verse 2 contains 3 words, verse 3 contains 3 words, verse 3 contains 3 words, and verse 4 contains 5 words. Data on the number of letters and numeric values in each verse are as follows:

Table 1.
Data Presentation of Surah Al-'Alaq 1-5

Verse	Number Of Letters	Different Letters	Total Numerical Value

1	18	11	1098
2	15	8	1213
3	14	8	822
4	13	8	1084
5	18	7	594
Total	78		5811

Based on Table 1, the relationship pattern between different letters and verse numbers to find the number of letters can be formulated as:

n_h={(b_h+6+n (for verses 1 and 5)@b_h+9 -n (for verses 2,3, and 4))┤

Description:

n_h= Number of letters

b_h= Different letters

n= verse number

In verse 1: Number of letters = 18, different letters = 11

So, many letters = 11 + 6 + 1 = 18

In verse 2: The number of letters = 15, different letters = 8.

So, the number of letters = 8 + 5 + 2 = 15.

In verse 3: The number of letters = 14, different letters = 8. So, the number of letters = 8 + 4 + 2 = 14.

In verse 4: The number of letters = 13, different letters = 8.

So, the number of letters = 8 + 3 + 2 = 13.

In verse 5: The number of letters = 18, different letters = 14. letters = 7.

So, the number of letters = 7 + 5 + 6 = 18.

The second pattern determines the number of letters in terms of the verse number for verse 1 = 18, verse 2 = 15, and verse 3 = 14. It is known that the value of a = 1, b = -6, and c = 23, using a quadratic equation in the form general:

〖an〗 ^2+bn+c=0

becomes: n^2-6n+23=0

Description:

n = verse number

In verse 1: 1^2-6.1+23=18

In verse 2: 2^2 -6.2+23=15

In verse 3: 3^2-6.3+23=14

The third pattern is obtained from the linear equation for verse 4 = 13 and verse 5 = 18, with a = 5 and b = -7, the general form of the equation is: an+b=c

Becomes: 5n-7

Description:

n = verse number

In verse 4: 5(4)-7=13

In verse 5: 5(5)-7=18

The fourth pattern is reviewed from the letter number, the numerical value of the compiler letter name, and total numeric value. These values are multiples of 3, because the number of the letter Al-'Alaq is 96 = 32 x 3. The numerical value of the letter name is 231 = 77 x 3. The total numerical value of verses 1-5 is 5811 = 1987 x 3. In the table 1. It is known that many letters, verse numbers, different letters, and numerical values when collected will form multiples of 3 and have place values, because each place number in a number has a value according to its sequence. The number of letters is 18, 15, 14, 13, and 18. If the number of letters in each verse is collected, then 1815141318 = 605047106 x 3. The verse numbers collected (from the largest to the smallest) will produce 54321 = 18107 x 3. The verse number is followed by the number of letters, then produces the number 118215314413518 = 39405104804506 x 3. If the order of the number of letters followed by the verse number

is changed, it will produce the number 181152143134185 = 60384047711395 x 3. The different letters consist of 11, 8, 8, 8, and 7. If the numbers for each letter are collected which is different, then 118887 = 39629 x 3. If the order of the number of the letters are changed, so that they become 7, 8, 8, 8, 8, and 11 with the same multiplication order, then you will get 788811 = 262937 x 3. Then if each different letter is added up, it will become: 11 + 8 + 8 + 7 = 42, the number 42 is the result of 14 x 3. The numerical value when collected from verse 1 to verse 5 will produce the number 209812138221084594 = 69937379407027528 x 3.

Table 2.
Numerical Value Per Word

Verse	Number Numerical Value Per Word				
1	302	103	222	741	730
2	730	193	290		
3	302	228	292		
4	741	140	203		
5	140	293	41	70	150

In Table 2, each numerical value of a word is a multiple of 3 and has its own place value according to the order of the numbers. In paragraph 1, if collected, it will produce the number 302103222741730 = 100701074247243 x 3. In paragraph 2, the numerical value of each word, if collected, will produce the number 730193290 = 243397763 x 3. In paragraph 3, the numerical value of each word, if collected, will produce the number 302228292 = 100742764274 x 3. In paragraph 4 the numerical value of a word if collected forms the number 741140203 = 247046734 x 3. In paragraph 5 the numerical value per word if aggregated will form 1402934170150 = 46731190050 x 3.

Table 3.
Letters, Number of Letters, Numerical Values, and Total Numerical Values

No	Letters	Many Letters	Numerical Value	Total Value Numeric
1	Alif	17	1	17
2	Koff	6	100	600
3	Ra’	5	200	1000
4	Ba’	4	2	8
5	Sin	3	60	180
6	Mim	9	40	360
7	Kaff	3	20	60
8	Lam	14	30	420
9	Dzal	2	700	1400
10	Ya	3	10	30
11	Kho	2	600	1200
12	Nun	5	50	250
13	Ain	4	70	280
14	Wau	1	6	6
Total		78	1889	5811

From Table 3, the calculation results of each letter in the letter Al-'Alaq verses 1-5, if sorted by the number of letters from the smallest to the largest number will be obtained: 1-2-2-3-3-3-4-4-5-5-6-9-14-17. Then the numbers are collected until the results form a

multiple of 3 and each number has a place value of 1223334455691417 = 4077815189713 x 3. If all the letters in the Qur'an are calculated, namely 114 letters with the order of the letter Al-'Alaq, namely the 96th, so that when combined with each number has its place value and is a multiple of 3, it will produce 11496 = 3832 x 3. Related to multiples of 3 in mathematics, the number 3 becomes the first odd prime number. In Islam, demands are divided into 3 parts, namely those related to the heart (belief), activities of the limbs (sharia), and morals. The meaning of repeating 3 times in the hadith qauli includes the glory or superiority of the form of a mother's right over a child is greater than the right of a father. As a form of understanding, the Prophet in the teaching and learning method uses the repetition method, usually he repeats the words 2-3 times so that they can be understood. The number 3 in the Qur'an can be understood by looking at the suitability of the verses and places. There are issues that he raised, including the three repetitions of numbers and prayers that are repeated three times in the Qur'an. Many verses contain the number three. Quraish Syihab also said, if you want to do good, perfect it with 3 things, namely consider it a little (will be much in the sight of Allah), speed up giving (will speed up joy), and hide it so that others don't know (will make the person who is given guard his face). In everyday life, the number 3 is interpreted or identified as the sunnah of the Prophet, in Islam it is recommended to repeat it 3 times, such as: ablution movements, reading tasbih ruku' and sujud, takbir phrases on Eid, eating with 3 fingers, saying greetings, and reading the letter Al-Ikhlas 3 times is the same as completing the Qur'an. Mathematical patterns are an important concept in mathematics education, besides mathematical patterns also have an important role in learning mathematics. Patterns are recurring relationships between elements in a series or sequence. Learning and understanding mathematical patterns helps students develop a deeper understanding of mathematical concepts and structures. Mathematical patterns involve understanding the order of numbers, relationships, and rules in mathematics. The relationship between mathematical patterns found in this study can be applied to education at each level of education, namely from junior high school to college.

CONCLUSION

Based on data analysis, it can be concluded that in the letter Al-'Alaq verses 1-5 there are 4 different mathematical patterns. One of the related patterns is multiples of 3, where multiples of 3 have special features and are identified with the sunnah of the Prophet. Mathematical patterns have an important role for understanding, mathematical patterns can help students and students in solving problems and identifying relationships in various contexts.

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