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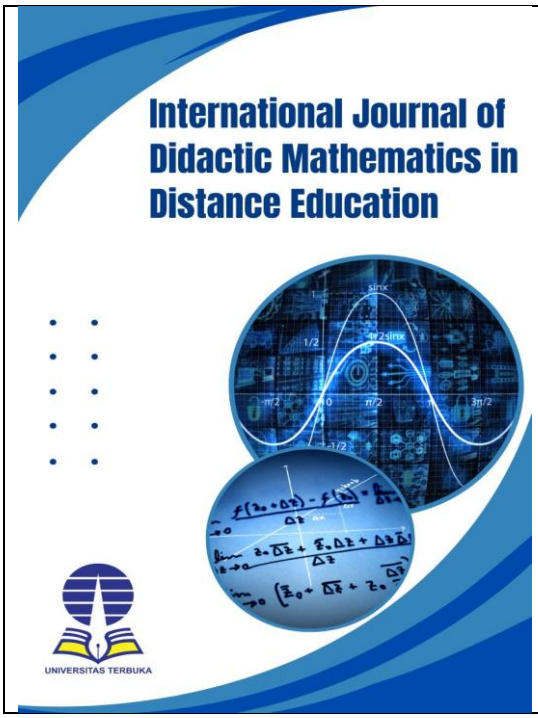

Mathematical concepts and cultural values in guest reception traditions: an ethnomathematic study of the Dawan Tribe Community on The Timor Island

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Mathematical concepts and cultural values in guest reception traditions: an ethnomathematic study of the Dawan Tribe Community on The Timor Island

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Abstract
The aim of this study is to explore mathematical concepts and cultural values in the reception traditions of the *Dawan* tribe (*Atoni Meto*). The research method used is qualitative research with an ethnographic approach. The research subjects were three informants and the research objects were music, dance and handicrafts. The instruments used in this research were observation, interviews and documentation. The results of the research show that (1) there are mathematical concepts in the arts of music, dance and handicrafts in the reception traditions of the *Atoni Meto* tribe, including; flat shapes (Square, Circle, Rectangle, Rhombus, Triangle), spatial shapes (Cone, Cylinder and Cuboid), the Concept of Lines and Sets, and (2) Cultural values contained in hitting the gong (*Leku Sene*) namely as a guide and a sign of joy, dancing (*Sbo'ot*) symbolizes joy, traditional speech (*Natoni*) as a form of respect and continuity of bond, repetition as a sign of brotherly bonds, eating betel-nut (*M'pua*) as unity and a sign of conveying goals and eating together as unity.

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1. Introduction

Mathematics and culture are an inseparable unity in everyday life (Sudirman et al., 2018; 2024). Mathematics is a science that is often used in everyday life (Mumcu, 2018; Sharma, 2021), while culture is a habit that contains very important elements of life and is passed down from generation to generation from previous lives. In the habits carried out there are often mathematical concepts (Gordon, 2011). From the explanation above it can be said that culture and mathematics is something that can be combined and explored in the world of mathematics (Aikenhead, 2017). Therefore, one alternative that can be used to link mathematics and culture is called ethnomathematics (Civil, 2002; François & Van Kerkhove, 2010; Rosa & Orey, 2011;). Ethnomathematics is a science that understands how mathematics and culture are related to each other with the aim of being able to express the relationship between the two (Sutarto, et al., 2021)

Ethnomathematics is a cultural activity that can be used to understand, express and use cultural concepts and practices that are described as mathematical (Cimen, 2014; D'Ambrosio & Rosa, 2017). Ethnomathematics is a mathematical practice not only limited to formal approaches found in schools but also reflected in daily activities in society (Rowlands & Carson, 2002). At another level, ethnomathematics can be described as a special habit carried out by a cultural group that contains mathematics such as; counting, playing, measuring, making patterns that can be explained in their own way. This can be found in the life of the *Dawan* tribe community (*Atoni Meto*).

The *Atoni Meto* tribe consists of two words, namely orang-orang *dawan* (*Atoni Pah Meto*) which means people or humans and Meto literally means people from dry land who like farming. *Atoni Meto* is an agricultural society that always relies on rules or norms passed down from generation to generation (Kause 2023). The distinctive characteristics of their interaction are using the regional language (*Dawan*) and speaking Indonesian. Another unique thing about the life of the *Atoni Meto* tribe is the tradition of receiving guests. The tradition of receiving guests is a tradition passed down from generation to generation which is

often carried out by the community as a form of respect for visiting guests wearing traditional clothing. The uniqueness of the reception tradition of the *Atoni Meto* tribal community lies in the stages of the traditional reception ritual, music, dance and handicrafts. The stages in the guest reception tradition include; hitting the gong (*Leku Sene*), Dancing (*Sboot*), Traditional Speech (*Natoni*) acceptance and release, Pengalungan, Eating Betel-Nuts (*M'pua*), Conveying Goals, Eating Together. The art of music in the life of the *Atoni* tribe includes; Gong (*Sene*), Guitar (*Le'ku*), Biaola (*Biyol*). The community also uses wood to make traditional Timorese musical instruments, namely Gendang (*Tu'fui*), guitar (*Le'ku*) and violin (*Biyol*). Usually these musical instruments are combined with gongs (*Sene*) (Sumanto & Takandjandji, 2014). while the art of dance is; Traditional Dances (*Bonet*) and handicrafts include; Spoon (*Sunu*), Plate (*Pika*), Glass (*Tu'ke*), Sarong (*Tais*), Blanket (*Beti/Mau*), Bag (*Aul Noni*), Pinang siri holder (*Oko Mama* and *Tiba*), and chalk holder (*Aob 'talai*).

Many research studies have investigated ethnomathematics such as those carried out by Kou and Deda (2020), ethnomathematics that grows and develops in culture. By applying ethnomathematics as an approach to explore and analyze the ethnomathematics contained in the thelas *keta* traditional event in the community of Noemuti. Nomleni et al. (2021) explored various unique features such as; architecture in the form of; Ume Kbubu and Lopo, Traditions in the form of; Calculation of days, Birth, Marriage and Death Ceremonies, as well as skills and arts. Another research conducted by Auw et al. (2024) explored the ethnomathematics and cultural values found in the Abui Tribe Community that were inherited by their ancestors such as customs, traditions that grew and developed in the life of the community from ancient times to the present. The uniqueness of the Abui tribe lies in the form of its traditional house, *Moko*, and its *Lego-lego* dance.

There are differences between the previous research with this research, including related to the research object. This research was not limited to exploring mathematical concepts, but also exploring the culture values. In addition, previous studies focused on traditional houses, traditional games, and others. While in this study, it focuses more on the traditions of the community in the guest reception ceremony. It is on this basis that this research was conducted to find out the mathematical concepts and cultural values found in the tradition of welcoming guests of the *Atoni Meto* tribe.

2. Method

The type of research used in this research is a qualitative research with an ethnographic approach that can reveal mathematical concepts and cultural values found in the customary rituals of welcoming guests of the *Atoni Meto* community. This research was conducted in *Lanu* Village, *Oinlasi* District, Central *Timor Selatan* Regency, East *Nusa Tenggara,* Indonesia on April-May, 2024. The instruments used were interviews, observations, and documentation. The participants in this research were three people: one village head of Lanu and two traditional figures. The head of the village was a regional leader and one of the traditional leaders in the village and two traditional figures were people who were appointed as traditional leaders who understood history and were respected as elders.

Data collection techniques were carried out in three ways as shown in Figure 1.

Figure 1.
Data collection techniques

Observation stage, the research looked directly at the traditional ritual of receiving guests to find mathematical concepts and cultural values found in traditional rituals, music, dance and handicrafts in the *Atoni Meto* tribe community. Then the researcher conducted an interview in the form of question and answer with the informant namely chief of *Lanu* village, and two members of the indigenous community with the aim of the researcher deepening the discussion that can be explained. Documentation was done to strengthen the data that had been obtained, both the literature study and the data obtained during the research.

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The data analysis techniques used in this research were in the form of domain analysis, taxonomy analysis, component analysis, and cultural themes (Spradley, 1980). The level of domain analysis was done to obtain an effective picture of the object being studied to be analyzed as a general picture that could be explained mathematically. Taxonomic analysis was done to determine the focus of the research, which was on a series of customs of welcoming guests, music, dance and handicrafts that could be studied as research data, observing, interviewing, and documenting until the researchers obtained a lot of data. In component analysis, the researcher turned the domain into a research focus that contained mathematical concepts and cultural values that can be explored, looking for similar elements through the interview process so that the researchers could better determine the domain that could be measured and explained mathematically. Observation and documentation were focused in this research. The researchers thus could see directly the sequence of customary reception rituals of the *Atoni Meto* tribe community and took pictures as evidence of the implementation of the research. The researchers could also use the pictures into parts that could be analyzed as well. The analysis included analysing the mathematical concepts found in the tradition of welcoming guests and themes culture. The researcher could then find a common thread to express mathematical concepts and cultural values found in the research object.

3. Results and Discussion

3.1 Results

The object of this research was the stages of customary rituals of welcoming guests that can be reviewed from handicrafts, music, dance and cultural values found in the *Atoni Meto* tribe.

3.1.1. Mathematical Concept

Mathematical concepts were found in several artifacts such as the following.

Music Carving Painting and Weaving Crafts

Figure 2

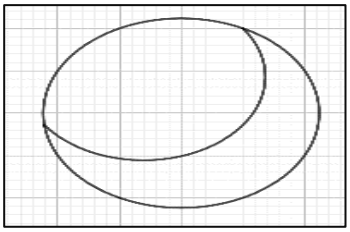
Spoon (Sunu), Plate (Pi'ka) and Glass (Tuke)

Handicrafts in the *Atoni Meto* tribe generally included various kinds of crafts, especially for men, handicrafts that were often produced by men namely; plate, spoon, and glass. As for Women namely sarong (*Tais*), Blanket (*Beti/Mau*), Bag (*Aul Noni*), Betel-Nut place (*Oko Mama*), and Glass (*Tuke*) their crafts usually had no interference from anyone.

A plate (*Pi'ka*) was shaped like a semicircle or a semicircle where the open top of the plate forms a circle and curves inward.

Figure 3

Plate



Spoon (*Su'nu*) was an eating tool in the *Atoni Meto* tribe. In the mathematical concept, the spoon had flat shapes, which included the top end of the circle and the handle part of the square, rectangle, rhombus and circle.

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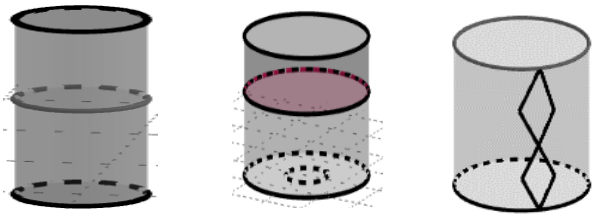
Figure 4.
Spoon

While the glass (*Tu'ke*), betel-nut (*Tiba*), and the chalk (*Ao'balaf*) were cylinder-shaped handmade vessel made of bamboo where the upper part forms a circle and is open and the lower part is circular and open down to accommodate the cylinder forming.

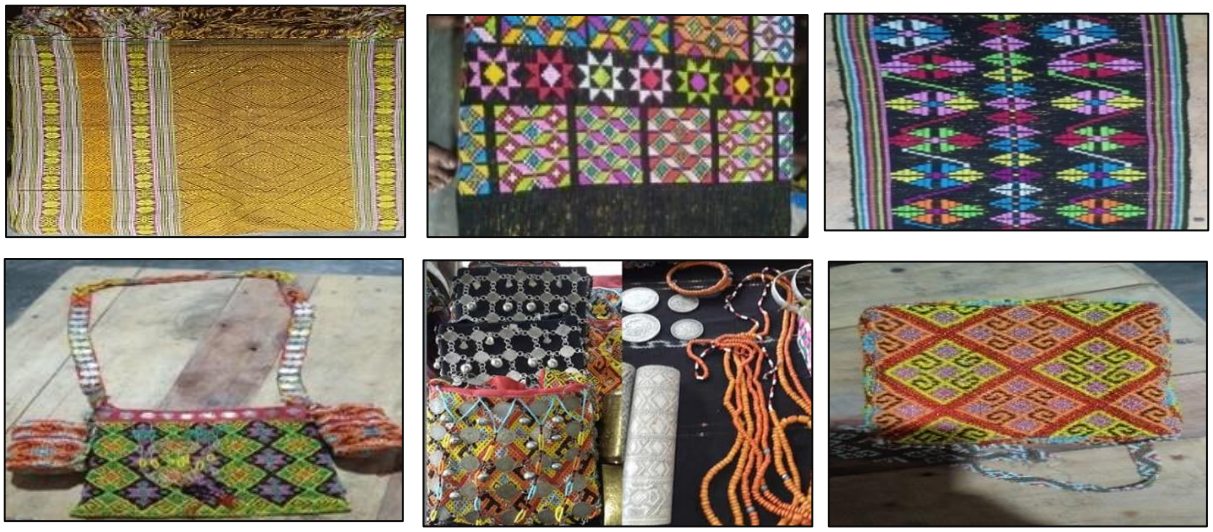
Figure 5.
Glas, Betel-Nut Place and Chalk



The art of weaving

The weaving craft in the *Atoni Meto* tribe was almost no different from other traditional ones. However, in the *Atoni Meto* tribe it was very unique where their clothes were woven by themselves. Where the clothes for men were called Blanket (*Beti*), Bag (*Aul Noni*), and Belt (*Fut Noni*), While the clothes for women were called Sarong (*Tais*) and Shawl (*Mau Ana*).

Figure 6
Blanket, Sarong, Shawl, Bag, Place of Chalk & Belt, and Place of Betel-Nut



In the process of making traditional clothing, the *Atoni Meto* tribe generally used simple traditional tools. Weaving activities generally took two to three months. This activity itself was usually carried out by women.

The bag was a square craft and had a motif in the middle in the form of a reflection of rhombuses, circles and parallel lines. The bag in the life of the *Atoni Meto* tribe was a tool used to fill equipment such as betel-nut place and lime containers.

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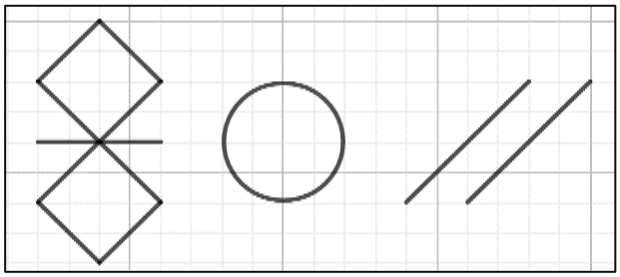
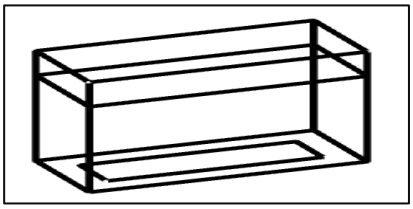
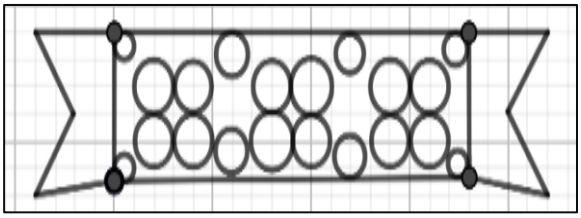
Figure 7
Reflection of Rhombus, circle and Parallel Lines



The betel-nut place were in the shape of a cube which has a box at the top. The betel-nut place had a diamond-shaped motif.
Figure 8
Beam



Belts were a handicraft made from woven threads and then sewn together with silver coins (*Noni*) to form a belt. The shape of the belt was rectangular.
Figure 9
Rectanglar



Traditional Music

Mathematical concepts were found in the music of Gong (*Se'ne*), Guitar (*Leku/Pisu*) and Violin (*Biyol*). Pictures of each of these musical instruments were described in the following sections.
Figure 10
Gong, Guitar and Violin

Gong was a traditional musical instrument made from old iron round in shape with a small circle protruding at the center point. The gong was also used when there was a reception of guests or during wedding, government, religious and other joy ceremonies. The guitar was a traditional musical instrument made of wood which functions on a lonely day when someone was sitting relaxed playing the guitar and during ceremonies in traditional houses (*sonaf*). They used it to accompany a song and accompany a dance. dance.

The guitar was a traditional musical instrument usually used at traditional events or as an accompaniment to dances made from wood, wax gourd skin and horsehair rope. The shape of the guitar was circular at the bottom and rectangular at the top. From observations, the shape of the violin itself was square at the bottom and rectangular at the top. The violin in the life of the *Atoni Meto* tribe was a traditional musical instrument which was often used as entertainment music which was played by singing regional language songs (*Dawan*).

Traditional Dance

The traditional dance of the *Dawan* tribe is known as *Bonet*, as in figure 11.

Figure 11

Bonet

The Bonet was a traditional dance performed by all communities without any restrictions wearing traditional clothing and in the shape of a circle which symbolized unity and oneness in the *Atoni Meto* tribal community.

3.1.2. Culture Value

Culture value could be found in several artefacts such as the following.

Hitting gong

Hitting gong (*leku sene*) was the most important part of welcoming guests.

Figure 12

Hinting gong

Based on the observations, hitting gong was the initial stage as a warning sign (information/instruction) to the *Atoni Meto* tribal community. It signed that guests who would visit were close. It was hoped that all the community could gather and prepare themselves to welcome the guests. Gong (*sene*) was a traditional circular musical instrument made of iron. Hitting the gong was generally done by several women who were led and skilled at using wood, traditional clothing such as sarongs (*Tais*) made of thread.

Dance

Dance was different of bomet. This dance was known as Bso'ot. Dancing was one of the dance arts owned by the *Atoni Meto* tribal people. Dancing in everyday life was a culture that had been passed down from generation to generation until now, one of which was in the tradition of receiving guests.

Figure 13

Dance

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From the observations, Sbo'ot was a sign of happiness and recognition of the environment of the *Atoni Meto* tribal community for visiting guests and as entertainment for the community. Apart from that, the dance of the *Atoni Meto* community was a sign of the community's happiness because they received a visit. Sbo'ot was usually done by several men and women lined up parallel to each other. wearing traditional clothing, namely; Blanket (*Beti or Mau*), Crown (*Pilu Naksuti*), Machete (*Kelewang*), Bag (*Aul Noni*), and belt (*Fut Noni*) accompanied by gong musical instruments.

Traditional Welcome Speech

Traditional speech known as *Natoni* was a tradition very embedded in the life of the *Atoni Meto* tribe, especially in reception activities.

Figure 13

Traditional Welcome Speech

This stage was the third stage as a form of self-introduction between the community and visiting guests using the local language or local language (*Dawan*) and carried out by several men wearing traditional clothing (*Blua Adat*). *Natoni* was the most important part carried out as a form of respect for ancestors and initial introduction (communication) between the community and visiting guests. In essence, *Natoni* was believed as an expression of a message expressed in the form of traditional figurative poetry which is spoken orally by a speaker (*Atonis*). The speaker was then accompanied by a group of people as companions or followers (*Nahe'en*) which was addressed both to fellow humans and to the spirits of the dead or gods.

Traditional welcome speech release was the sixth stage as a form of release and a sign of friendship that would never be broken between the community and visiting guests using the local language or *Dawan* language. Apart from that, this stage was also a sign warning the community and visiting guests that what they had discussed together to always remember.

Crossing

Crossing was known as *Tahekeb* like the figure 14.

Figure 14

Traditional Welcome Speech

This stage was the fourth stage as a form of ties of brotherhood, appreciation and respect between the *Atoni Meto* tribe community and visiting guests (*Lais Mafutus*) by giving scarves. The draping of the scarf was usually done by the oldest person, where the scarf would initially be placed on a circular tray and the scarf will be lifted around the guest's neck. Apart from that, the garland was a sign of identification for

guests so that people could know that this was their guest or relative who came tos visit. Then the guest would be invited to enter. Giving Betel-Nut (*M'pua*), like the figure 15,

Figure 15

Giving betel-nut

This stage was the fifth stage where the community would send a woman to give betel-nut to visiting guests. Gifts of betel areca were usually betel-nut plac in the form of a cube containing areca nut, betel and lime. The meaning of this stage was a sign of acceptance and unity between the community and visiting guests. This was usually done by several women who were appointed by wearing traditional clothes and holding betel-nut or areca nut containers containing betel, areca nut and lime.

Praying

Praying in the *Dawan* language is known as *onen*.. This stage was the final stage of all meeting activities between the community and visitors in the *Atoni Meto* tribal community. Traditional rituals were one of the traditions for conveying prayers to ancestors and God. There were many reasons why the *Atoni Meto* tribe, both individually and as a group, always started and ended every series of activities with traditional rituals.

3.2 Discussion

This section will discuss 2 topics according to the objectives of this research, namely mathematical concepts and cultural values.

3.2.1 Mathematical concepts

Based on the research findings, it was found that there were mathematical concepts contained in the *Atoni meto* tribe's guest reception tradition. These mathematical concepts included flat shapes and space shapes. Several flat and spatial building concepts exported from the tradition of receiving guests in the *Atoni Meto* tribal community included:

Rectangle

A square is a shape derived from a quadrilateral whose four sides are the same length. This was found on the body of the violin (*Biyol*) and the handle on the spoon (*sunu/soko*). A square is a derivative of a quadrilateral which has the special characteristics that its four sides are the same length and its four angles are right angles (90^0). A square is a rectangular flat shape that has four sides of the same length and four right angles 90^0.

A rectangle is a two-dimensional flat shape formed from two pairs of sides, each of which is the same length and parallel to its partner, and has four angles, all of which are right angles, namely 90^0.. (Oliveira et al., 2016). This was seen in the shapes of guitars (*Leku*), violins (*Biyol*), drums (*Tufuf/Ke'e*), spoons (*Soko/Sunu*), motifs on sarongs (*Tais*), bags (*Alu Noni*), and betel-nut area (*Oka Mama*). A rectangle is a two-dimensional flat shape formed by two pairs of edges, each of which is the same length and parallel to its partner. A rectangle has four angles, all of which are right angles. The long edge in a rectangle is called (l) and the short edge is called (w).

Circle

A circle is a set of all points on a flat plane that are the same distance from a certain point, which is called the center point. This shape was seen in the art of dance, namely; bonet dance and musical arts, namely: Gong. According to Sari (2022) a circle is a collection of points that are the same distance from a point so that they form a closed curve and have a circle center and radius. A rectangle is a rectangular flat

shape that has two pairs of parallel sides and has four right angles, opposite sides are parallel, and the lengths of all four sides are the same.

Rhombus

A rhombus is a parallelogram structure whose four sides are the same and whose diagonals intersect to form right angles (Yavuzsoy-Köse et al., 2019). Yhe rhombus shape in this study was found in the shape of the handle on the spoon (*Sunu/Soko*), the motif of the sarong (*Tais*), the blanket (*Beti/Mau*), the betel and areca nut holder (*Oko Mama* and *Tiba*). A rhombus is a quadrilateral formed from an isosceles triangle, and the property of the parallelogram itself is (1). The sides are the same length, (2) The two diagonals are the axes of symmetry, (3) The opposite angles are equal and are divided into two equal lengths by the diagonals, (4) The two diagonals of a rhombus divide each other by the same length and perpendicular to each other.

Triangle

Triangle is a flat shape that is limited by three sides and has three vertices. Then the base of the triangle is one of the sides of a triangular shape, this can be seen in the shape, the motif of the sarong (*Tais*), blanket (*Beti/Mau*), bag (*Aul noni*), and place for betel and betel-nut (*Oko Mama*). Then for The height is the lines that are perpendicular to the side of the base and pass through the vertices that are opposite each other to the side of the base. According to Rodrigues (2015) a triangle is a shape bounded by three line segments and has three corner points. Triangles are divided into three types, namely isosceles triangles, equilateral triangles and arbitrary triangles. In everyday life we often encounter and are confronted with geometric objects in the shape of triangles.

Cylinder

A cylinder is a three-dimensional geometric figure formed by two parallel identical circles and a rectangle surrounding the two circles. The cylinder has three sides and 2 ribs. The two circles are usually called the base and lid of the cylinder and the rectangle that covers it is called the cylinder blanket. This was seen from the shape of the glass (*Tuke*), the place for betel and areca nut (*Tiba*), and the place for lime (*Ao'talaf*). A cylinder is a 3-dimensional space formed by 2 parallel identical circles and a rectangle surrounding the two circles (Ulusoy, 2019). In the motifs and carvings on *Tuke*, *Tiba and Ao balaf* there was a flat shape in the form of a rhombus.

Cuboid

A Cuboid is a three-dimensional shape formed by three pairs of squares or rectangleswith a maximum of one pair of them being different. A cuboid has six sides, twelve edges and eight vertices. A Cuboid formed by six equal and congruent squares is called a cube, this can be seen in the shape of the betel-nut place (*Oko'mama*). A Cuboid is a geometric figure bounded by 6 sides, where each side of the rectangle coincides with exactly one side of the other rectangle and adjacent rectangles are congruent (Isa et al., 2024).

Parallel Lines

Parallel lines are two lines that exist in a plane, but do not have a meeting point with another line. This shape was seen in guitar strings (*Leku*) and violins (*Biyol*). A pair of intersecting lines is the position of two lines that have an intersection point because the two lines meet each other. In geometry and mathematics, intersecting lines occur due to different slopes between the lines. According to Rohmatun (2020). Two lines are said to be parallel if the two lines lie in the same plane and if they are extended they will not intersect (have no intersection point). Meanwhile, two lines are said to intersect if the two lines lie in the same plane and if they have an intersecting point (common point).

Set Concept

The concept of a set is a collection of certain objects that have a clear definition and are considered as a single unit. This shape was found in traditional dances (*Bonet*, *Sboot* and *Bilut*). According to the Association, it is a collection of objects that are clearly defined. The objects of a set are clearly defined, meaning that an object can be determined with certainty whether it is included in the set or not included in the set. According to Buneman et al. (1995) a set is a collection of different objects. Then it is reinforced by another definition, "A set is a collection of things or objects whose members can be clearly defined, so that you can know precisely which objects are included in the set and which are not included in the set.

3.2.2 Culture Values

Based on the research results, it was found that the meaning or cultural values contained in the traditional ritual of welcoming guests of the *Atoni Meto* tribe. Among them are the stages of receiving guests, namely:.

Hitting the Gong

Hitting the gong (leku sene) is a tradition or habit of the *Atoni Meto* tribe which is often done using traditional clothing and the traditional musical instrument gong (*Sene*). This tradition itself is usually carried out as a sign or information for the whole community to gather immediately because guests are close. According to El et al. (2022) Timor Gong is a traditional musical instrument of the *Dawan* tribe which functions as a means of communication in rituals and entertainment. One of them can be used in the tradition of receiving guests.

Dancing

Dancing (*Sbo'ot*) is a dance that is often performed by the *Atoni Meto* tribe community using traditional clothing accompanied by traditional musical instruments or gongs as a symbol of joy and happiness experienced by the *Dawan* tribe community both in government, religious and social activities. education. According to Hariswari (2023) this gong dance is a dance used in ancient times as a dance to welcome *Dawan* tribe men who had just arrived from the battlefield carrying the severed heads of opponents who had been defeated at that time. When the war leader arrived carrying the enemy's head. The women and mothers loudly beat the gongs and dance while carrying out a procession around the village as an expression of happiness. As time went by, this dance has changed its function to become an entertainment dance for the community.

Traditional Welcome Speech

Traditional speech (*Natoni*) is a tradition of the *Dawan* tribe carried out using the regional language (*Dawan*). Traditional speech is usually spoken in the context of traditional ceremonies (traditional marriage and death ceremonies) and also other ceremonial events, for example when welcoming and sending off guests (Andung 2014). Traditional speech (*Natoni*) itself is usually performed by several men with a copy line position where in the front position there is one person who is called "*Atonis*" and will be followed by people standing in the back position who are called "*Na He'en* according to Banamtuan (2016) as an expression of a message that will always be remembered This activity itself is usually carried out as a sign of appreciation for ancestors and visiting guests.

Crossing

The draping of shawls (*Mau Ana*) is a tradition that symbolizes the bonds of brotherhood between the community and visiting guests. Another meaning of garlanding is the giving of a scarf as a sign of brotherly ties (*lais mafutus*) and unity. At the opening and closing stages, ties are usually carried out in the form of blankets/sarongs woven with regional motifs (*Mau/Tais*), then the line is disbanded and continued with other activities in the form of shaking hands, etc.

Giving Betel-Nut

Giving betel-nut (*M'pua*) is a sign that the community has accepted and united them as brothers. Giving betel-nut in the life of the *Atoni Meto* tribe is usually carried out by a woman who has been chosen wearing traditional clothing. According to Sunga (2022) that Bete-nut has religious and social functions. The religious function has the meaning of having magical powers to organize people's thought patterns and lives. Meanwhile, the social function is a symbol of togetherness, good manners, mutual respect for one another and order and discipline.

Praying

Praying (*Onen*) is a closing activity carried out as a sign of thanksgiving for the presence of Almighty God who has guarded and protected the community and visiting guests so that they can meet. This is motivated by ancient life, where life at that time was full of various threats and disturbances, especially when human dependence on nature was still very high. Therefore, rites become the main source and way to find peace and tranquility (Binsasi, 2022).

4. Conclusion

The *Atoni Meto* tribal community is a community located in the eastern part of Indonesia which includes South Central Timor Regency and North Central Timor. *Atoni Meto* in everyday life is known as a people who like Farming. In this research, the researchers aimed to explore the ethnomathematics found in the lives of the *Dawan* Tribe (*Atoni Meto*) people, namely the tradition of receiving guests which contains mathematical concepts and cultural values. From the results of the research, the authors concludes that the life of the *Atoni* tribe has various unique qualities and traditions that are very attached to this day, one of which is the tradition of receiving guests which includes handicrafts, music and dance. The author discovered the potential for mathematics in the form of flat shapes (squares, circles, rectangles, rhombuses, triangles), geometric shapes (cones, cylinder and Cuboid), lines and sets. The cultural values found include: hitting the gong (*Leku Sene*) as a guide, dancing (*Sbo'ot*) symbolizing joy, *Natoni* as a form of respect, garlanding as a sign of brotherly ties, eating betel-nut (*M'pua*) as a symbol of unity, conveying goals, eating together as a symbol of unity, farewell *Natoni* as a symbol of bonds that will never be broken and prayer (*Onen*) as a symbol of thanks giving.

Limitations

The object of this study is the tradition of guest reception in a village in East Nusa Tenggara, and the mathematical concept explored in this research is limited to geometry concepts found in the attributes used by the local community during the guest reception ceremony. It is recommended that future researchers explore other mathematical concepts, such as algebraic concepts in traditional expressions, customary behavior, and others..

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Author Contribution

Author 1: Conceptualization, Writing - Original Draft;
Author 2: Writing-Review & Editing, Formal analysis, Methodology; and Visualization
Author 3: Validation and Investigation
Author 4. Writing - Review & Editing

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Conflict of Interest

The authors declare no conflict of interest.

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