Journal of Mathematics and Mathematics Education
https://jurnal.uns.ac.id/jmme

p-ISSN 2089-8878; e-ISSN 2715-8276
Vol. 13, No. 02, December 2023

EXPLORATION OF ETHNOMATHEMATICS IN SAUNG RANGGON OF CIKEDOKAN VILLAGE CIKARANG BARAT THROUGH LEARNING GEOMETRY

Niken Fijayanti[1,] [*] **Wahidin**[2]

[1]Universitas Muhammadiyah Prof. Dr. Hamka, Jakarta, Indonesian [*]
[2]Universitas Muhammadiyah Prof. Dr. Hamka, Jakarta, Indonesian

* Correspondence purposes, email: nikenfijayanti08@gmail.com

Abstrak: Tujuan dari penelitian ini adalah (1) mengetahui konsep geometri dengan materi bangun datar, (2) mengetahui konsep geometri dengan materi bangun ruang, (3) mengetahui konsep geometri dengan materi geometri transformasi, dan (4) mengetahui pengembangan numerasi yang terdapat pada rancang bangun rumah adat Saung Ranggon. Penelitian ini merupakan penelitian kualitatif dengan pendekatan etnografi. Teknik pengumpulan data dalam penelitian ini menggunakan teknik wawancara, observasi, dan dokumentasi, serta analisis data menggunakan teknik triangulasi dengan model spradley yang terdiri dari analisis domain, analisis taksonomi, dan analisis komponensial. Hasil dari penelitian ini adalah konsep geometri yang terdapat pada rancang bangun rumah adat Saung Ranggon yaitu: konsep bangun datar (persegi panjang yang dapat dilihat dari bagian pintu, persegi yang dapat dilihat dari bagian dinding samping, segitiga yang dapat dilihat dari bagian ventilasi, trapesium yang dapat dilihat dari bagian dinding belakang, belahketupat yang dapat dilihat dari bagian pagar, dan lingkaran yang dapat dilihat dari bagian sumur tua), konsep bangun ruang (tabung), konsep geometri transformasi (refleksi terhadap sumbu $y = x$, sumbu $y = -x$, sumbu y), dan pengembangan numerasi digunakan untuk menyelesaikan permasalahan biaya.

Kata kunci : *Rumah Adat, Etnomatematika, Pembelajaran Geometri, Pengembangan Numerasi*

Abstract: The aims of this study were (1) to know the concept of geometry with geometric material, (2) to know the concept of geometry with geometric material, (3) to know the concept of geometry with geometric transformation material, and (4) to know the development of numeration contained in the design. Saung Ranggon traditional house. This research is a qualitative research with an ethnographic approach. Data collection techniques in this study used interviews, observation, and documentation techniques, as well as data analysis using triangulation techniques with the Spradley model consisting of domain analysis, taxonomic analysis, and component analysis. The results of this study are the geometric concepts contained in the design of the Saung Ranggon traditional house, namely: the concept of a flat shape (rectangle that can be seen from the door, a square that can be seen from the side wall, a triangle that can be seen from the ventilation section, a trapezoid that can be seen from the back wall, rhombus which can be seen from the fence section, and circles which can be seen from the old well), the concept of geometric shapes (tubes), the concept of transformation geometry (reflection

Accepted: november 01, 2023 Approved: november 31, 2023 Published: december 31, 2023
DOI: https://dx.doi.org/10.20961/jmme.v13i2.74403

p-ISSN 2089-8878; e-ISSN 2715-8276

on the $y = x$ axis, $y = -x$ axis, y axis), and numeration development is used to solve the cost problem.
Keywords: *Traditional House, Ethnomathematics, Geometry Learning, Numeration Development*

INTRODUCTION

Indonesia has a cultural diversity that characterizes it as a multi-ethnic nation (Daiman & Iswahyudi, 2019). The diversity of culture in Indonesia is a combination of various kinds of traditional culture from Sabang to Marauke which is a special feature as the uniqueness of the regions spread over 37 provinces (Hartanti & Setiawan, 2019). Thus, the uniqueness of culture in Indonesia is reflected in movement, traditional food, customs, traditional clothing, musical instruments and traditional houses. As a result, culture which is the work and creation of human feelings shows that humans live their lives with reason and thought (Rahmawati & Muchlian, 2019). One part of the way of life that is attached to the value of teaching is the traditional house (Safitri & Priscilla, 2022).

Traditional houses can study culture with the field of education, namely mathematics (Kurino & Rahman, 2022). The structures of traditional house buildings such as roofs, window sills, doors, and so on are always related to the concept of geometry, therefore mathematics has been a part of culture for centuries (Yuniar et al., 2022). So it can be concluded that mathematics is now a part of everyday life. One alternative that can link culture with mathematics is Ethnomatematics (Bito et al., 2021).

As an illustrative study, there are traditional houses in West Java, precisely in Bekasi, one of which is the Kranggan Stage Traditional House (Liaupati et al., 2022). This is a characteristic of the Sundanese building in West Java. The shape of the roof of this building is in the form of a triangular prism because there are two congruent triangular sides and all the other sides are parallelograms. Each building has an ethnomathematics meaning, because buildings are inseparable from geometric material and every building in Indonesia has a culture such as traditional houses and mosques (Ba'ru & Ranteallo, 2019). Ethnomatematics can also be considered as a program that aims to investigate how students understand, articulate, process, and finally apply mathematical ideas, concepts, and methods to solve everyday problems (Ditasona, 2018). Meanwhile, the role of ethnomathematics is to facilitate students in constructing mathematical concepts (Widada et al., 2019).

Previous research related to ethnomathematics in traditional houses found that there are geometric concepts in traditional house buildings, in particular, "Ethnomatematics Exploration of Geometry Concepts in Joglo Pati Houses" on geometric concepts such as lines, angles, flat shapes, Pythagorean theorem, geometric shapes, congruence , and geometric transformations (Kholisa, 2021). "Ethnomatematics and Geometry Exploration in "Rumoh Aceh" discovered mathematical concepts and geometric concepts (Azmi, 2021). "Ethnomathematics Exploration at the Joglo Sinom Limas Traditional

House" found geometric concepts, namely points, lines, space, geometric transformations, symmetry, flat shapes, spatial shapes, congruence and congruence (Susanto et al., 2022). "Ethnomathematics Exploration at Rumah Kebaya Betawi" found mathematical concepts regarding integers, equivalent ratios, angles, one-dimensional geometry, two-dimensional geometry, three-dimensional geometry, transformation geometry, congruence and congruence of flat shapes (Nisa et al., 2022).

Judging from the previous research, it only focused on exploring traditional houses related to geometric material. While the difference between the research studied and previous research is in the aspect of numeration. The researcher will carry out an update by adding numeration aspects to the Saung Ranggon Cikedokan Traditional House with geometry material.

Based on the results of the data found, it can be concluded that the researcher will take the research object regarding traditional houses or traditional houses in the West Cikarang area which are still maintained today, namely the Ranggon Traditional House or Saung Ranggon. Saung Ranggon will be used as a research object that can be linked to culture and mathematics. So the researcher is interested in conducting research with the title "Exploration Of Ethnomathematics In Saung Ranggon Of Cikedokan Village Cikarang Barat Through Learning Geometry".

RESEARCH METHOD

In this study using qualitative research. If reviewed more deeply, this study uses an ethnographic approach (Diniyati et al., 2022). Data collection techniques used in this study were interviews, observation, and documentation. In this study, researchers will conduct interviews using a semi-structured interview technique which is already in-depth interviewing to find more open issues, researchers ask for opinions and ideas from informants (Herlina et al., 2018). In this study, the researcher who will be interviewed is the caretaker of the Saung Ranggon Kuncen, namely Kuncen Mrs. Raden Nyi Sri Sumiati (Emak Encup Sumiati) (Nisa et al., 2022). Researchers use participatory observation techniques to observe the behavior of research subjects and in this type of observation, researchers only visit research locations and remain passive observers (Indriyani, 2018). The technique of reviewing documents in this study is intended to record what is written in documents or archives related to the problem under study, then try to understand the intent or meaning. The purpose of this documentation method is to find secondary data on the Saung Ranggon traditional house. In data analysis using triangulation techniques with the Spradley model which consists of domain analysis, taxonomic analysis, and component analysis.

RESULTS AND DISCUSSION

p-ISSN 2089-8878; e-ISSN 2715-8276

The traditional house that is the object of this research is Saung Ranggon traditional house. Saung Ranggon traditional house is located on Jl. Cikedokan, RT.002/RW.08, Cikedokan, West Cikarang District, Bekasi Regency, West Java 17530.

Figure 1. Saung Ranggon

This traditional house used to be the hiding place of Prince Rangga from the VOC colonial. In 1619 Prince Rangga, son of Prince Jayakarta fled from the VOC, after the defeat of Prince Jayakarta from the VOC. From this defeat, Prince Rangga looked for a place far from the reach of the VOC so that he would not be found. Therefore, a 7.6 meter by 7.2 meter house on stilts was built with a building height of about 2.5 meters. Then in 1821, Saung Ranggon was rediscovered by Mataram Abbas troops named Raden Abbas. The Saung Ranggon traditional house has been around since the Dutch colonial era in Indonesia, which is around the 16th century.

Two-dimentional figure.

A flat shape is a flat plane composed of dots or lines that unite to form a 2-dimensional shape that has a circumference and area. The flat shapes found in the Saung Ranggon traditional house include:

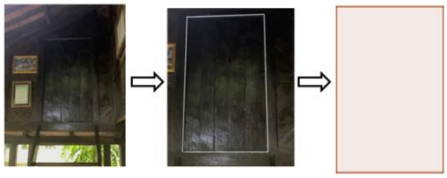


Figure 2. Rectangular

In the picture above, you can see the door of the Saung Ranggon traditional house in the form of a rectangular flat shape. Based on this, researchers will analyze the results of the flat wake concept on the door of the Saung Ranggon traditional house.

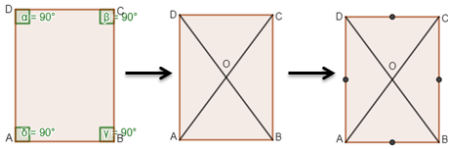


Figure 3. Rectangular Properties

Based on the analysis in Figure 3, there are the properties of the rectangle found in Figure 3 as follows:

1. Each corner is the same size $(\angle A = \angle B = \angle C = \angle D = 90°)$
2. The diagonals are the same length $(BD = AC)$
3. The diagonal bisect each other $(AO = OC = BO = OD)$
4. It has 2 axes of symmetry and 2nd degree rotational symmetry
5. $AB = DC$ and $AD = BC$ and $AB \,//\, DC$ and $AD \,//\, BC$)

Figure 4. Square

In addition to the rectangular shape, there is a side wall in the form of a square flat wake. Based on this, researchers will analyze the results of the flat wake concept on the side walls of the Saung Ranggon traditional house.

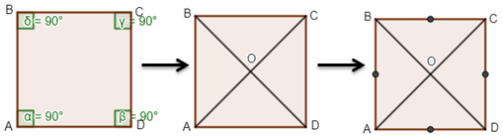


Figure 5. Square Properties

Based on the analysis in Figure 5, there are the properties of a square found in Figure 5 as follows:

1. Each corner is the same size $(\angle A = \angle B = \angle C = \angle D = 90°)$
2. The diagonals are the same length $(BD = AC)$
3. The diagonals are perpendicular to each other and bisect each other $(AO = OC = BO = OD)$
4. It has 4 axes of symmetry and 4 degrees of rotational symmetry
5. $AB = BC = CD = AD$ and $AB \,//\, CD$ and $BC \,//\, AD$)

p-ISSN 2089-8878; e-ISSN 2715-8276

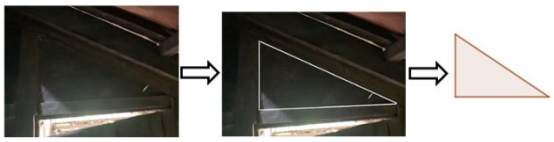


Figure 6. Right Triangle

In addition to rectangular and square shapes, there is a triangular flat-shaped vent. Based on this, researchers will analyze the results of the flat wake concept in the ventilation section of the Saung Ranggon traditional house.

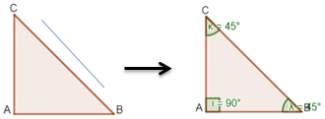


Figure 7. Properties Of a Right Triangle

Based on the analysis in Figure 7, there are the properties of the triangles found in Figure 7 as follows:

1. There is 1 slanted side and there is 1 elbow corner
2. It has two sides that are perpendicular to each other

Figure 8. Right Trapezoid

On the inside of the Saung Ranggon traditional house, there is a wall inside the traditional house in the form of a trapezoidal flat shape. Based on this, the researcher will analyze the results of the flat building concept on the inside of the walls of the Saung Ranggon traditional house.

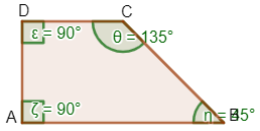


Figure 9. Properties Of a Right-angled Trapezoid

Based on the analysis in Figure 9, there are the properties of the triangles found in Figure 9 as follows:

1. There is a pair of opposite sides and $AB//DC$

2. There are two right angles $\angle A$ and $\angle D$

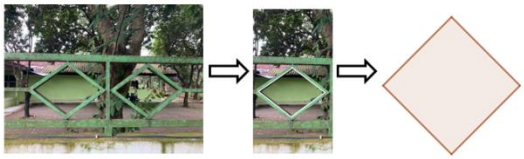


Figure 10. Rhombus

There is an outer fence in the shape of a flat rhombus shape. Based on that, the researcher will analyze the results of the concept of flat construction on the outside fence of the Saung Ranggon traditional house.

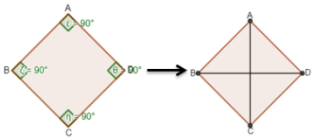


Figure 11. Rhombus Properties

Based on the analysis in picture 13, there are rhombus properties found in picture 13 as follows:

1. $(AB = BC = CD = DA)$ and (AB$//DC$ and $BC\ //\ AD$)
2. It has two fold symmetries and a rotary symmetries
3. It has opposite angles that are equal and bisected by its diagonal $(\angle A = \angle C, \angle B = \angle D)$

Figure 12. Circle

In addition to the kites and ketupat shapes, there is an old well that has existed since the founding of the Saung Ranggon traditional house. When viewed from above, the old well looks flat in the form of a circle. Based on this, researchers will analyze the results of the flat wake concept in the old well of the Saung Ranggon traditional house.

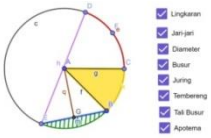
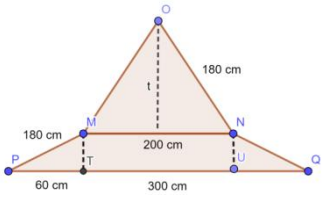


Figure 13. Circle Properties

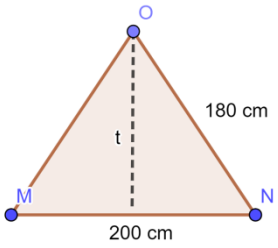
p-ISSN 2089-8878; e-ISSN 2715-8276

Figure 14. Triangle and Trapezoid

Furthermore, the back of the Saung Ranggon traditional house looks like a flat shape from a combination of triangles and trapezoids. To find the combined area of a triangle and a trapezoid as follows:



1. Find the area of the triangle



$c^2 = a^2 + b^2$

$180^2 = 100^2 + b^2$

$180^2 - 100^2 = b^2$

$32400 - 10000 = b^2$

$22400 = b^2$

$\sqrt{22400} = b$

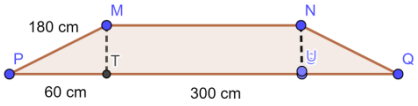
$40\sqrt{14} = b$

Finding the Area of a Triangle

$L\Delta = \frac{1}{2} \times a \times t$

$L\Delta = \frac{1}{2} \times 200 \times 40\sqrt{14}$

$L\Delta = 4000\sqrt{14}$



$a^2 + b^2 = c^2$

$PT^2 + MT^2 = PM^2$

$60^2 + t^2 = 180^2$

$t^2 = 180^2 - 60^2$

$t^2 = 32400 - 3600$

$t^2 = 28800$

$t = \sqrt{28800}$

$t = 120\sqrt{2}$

So that, $t = 120\sqrt{2}$

$L_{trapezoid} = \frac{1}{2}(\text{alas a} + \text{alas b})t$

$L_{trapezoid} = \frac{1}{2}(60 + 300 + 60 + 300)120\sqrt{2}$

$L_{trapezoid} = \frac{1}{2}(720)120\sqrt{2}$

$L_{trapezoid} = (360)120\sqrt{2}$

$L_{trapezoid} = 43200\sqrt{2}$

So, the combined area of the triangle and trapezoid is

$L_{combined} = L\Delta + L_{trapezoid}$

$L_{combined} = 4000\sqrt{14} + 43200\sqrt{2}$

$L_{combined} = 800\sqrt{2}(5\sqrt{7} + 54)$

2. Find the area of the trapezoid

The results found from the Saung Ranggon traditional house have flat material in the form of rectangles, squares, triangles, trapezoids, rhombuses, and circles (Yuningsih et al., 2021).

Geometry

Building space is a part of space that is limited by the set of points found on the entire surface of the building (side). Build the space found in the Saung Ranggon traditional house including:

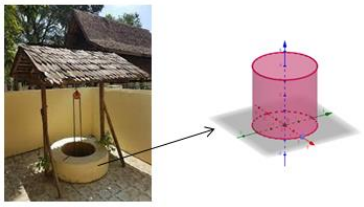
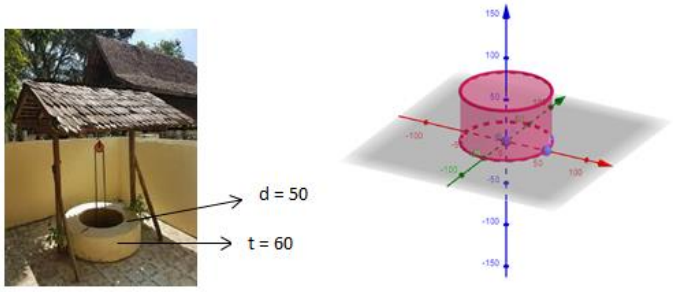


Figure 15. Tube

On the outside of the Saung Ranggon traditional house there is an old well that has existed since the founding of this traditional house. Figure 5 shows a well in the form of a cylinder shape. When viewed from outside the well has a height of 60 cm and a diameter of 50 cm, then the surface area of the tube can be found as follows:



Is known : $t = 60$ cm

$d = 50$, maka $r = 25$ cm

Area of surface $= 2\pi r(r + t)$

Area of surface $= 2 \times 3{,}14 \times 25(25 + 60)$

Area of surface $= 157 \times 85$

Area of surface $= 13345$ cm

The results found from the Saung Ranggon traditional house contained building material in the form of a tube (Sulistyani et al., 2019).

Geometry Transformation

Geometry transformation is a change in the position and size of an object (points, lines, curves, planes) (Istiqomah, 2020). The geometric transformations found in the Saung Ranggon traditional house include:

p-ISSN 2089-8878; e-ISSN 2715-8276

Figure 16. Reflections On The Axis- y=-x

The inner roof of the Saung Ranggon traditional house has geometric transformation material in the form of reflections on the axis $y = -x$.

Figure 17. Reflections On The Axis- y=--x

Furthermore, there is also the side of the roof in the Saung Ranggon traditional house with geometric transformation material in the form of reflections on the axis $y = x$.

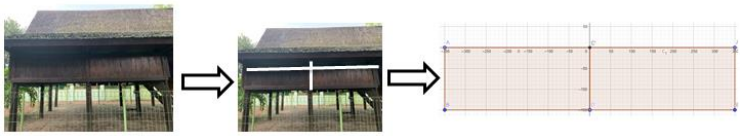


Figure 18. Reflections On The Axis- y

On the side wall there is a geometric transformation material in the form of a reflection (reflection) there is an axis y. If at point $A(-350,0), B(-350,-150)$, $C(0,0)$, and $D(0,-150)$, then the result of reflection on the axis y is $A(350,0), B(350,-150)$, $C(0,0)$, and $D(0,-150)$.

Figure 19. Reflections OnTthe Axis- **y**

On the back wall there is also geometric transformation material in the form of reflections on the axis y. If If at point $A(-150,0), B(-150,-150)$, $C(0,0)$, and $D(0,-150)$, then the result of reflection about the axis y is $A(150,0), B(150,-150)$, $C(0,0)$, and $D(0,-150)$.

The results found from the Saung Ranggon traditional house contained geometric transformation material (reflection) (Susanto et al., 2022).

Numerical Development

back view side view front look

The roof of the Saung Ranggon traditional house is in the form of a Julang Ngapak made of wooden shingles. The roof of the Saung Ranggon traditional house is in the shape of an inverted V. The roof of a traditional house consists of 4 identical rectangular parts. if a traditional house wants to renovate a roof that was originally made of wood shingles and wants to change it to tile, how many tiles are needed to cover the roof of the Saung Ranggon traditional house? The size of the tiles that you want to install is according to the size $25cm \times 20cm$ and if 1 tile is valued at IDR 5,000 how much does it cost to renovate the roof?

Solution :

That: Size 1 is precarious = $25\text{cm} \times 20\text{cm}$
Price 1 tile = Rp 5.000
roof length = 7,6m
Roof width = 1,75m

This: How many tiles are needed?
How much does it cost to renovate the roof?

$\text{Area}_{\text{Roof}} = \text{p} \times \text{l}$

$\text{Area}_{\text{Roof}} = 7{,}6\text{m} \times 7\text{m}$

$\text{Area}_{\text{Roof}} = 53{,}2\text{m}^2$

$\text{Area}_{\text{Roof}} = 532000\text{cm}^2$

$\text{Area}_{\text{precarious}} = \text{p} \times \text{l}$

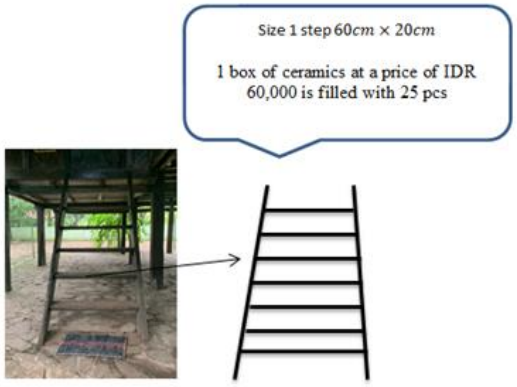
$\text{Area}_{\text{precarious}} = 25\text{cm} \times 20\text{cm}$

$\text{Area}_{\text{precarious}} = 500\text{cm}^2$

$\text{many} = \frac{532000}{500} = 1064 \text{ buah}$

It is known that the number of tiles needed is 1064 pieces. Next for how much it costs is $1604 \times \text{Rp } 5.000 = \text{Rp } 8.020.000$

p-ISSN 2089-8878; e-ISSN 2715-8276



Saung ranggon memiliki tujuh anak tangga yang mengarah ke rumah. Tujuh anak tangga tersebut terbuat dari kayu. 1 anak tangga berukuran $60cm \times 20cm$. Jika ingin merenovasi tujuh anak tangga dengan keramik, berapa banyak keramik yang dibutuhkan dalam merenovasi tujuh anak tangga tersebut dan berapa banyak biaya yang dibutuhkan dalam merenovasi anak tangga? Adapun ukuran keramik yang ingin dipasang dengan ukuran $20cm \times 20cm$ dan 1 box keramik diisi sebanyak 25 pcs dengan harga Rp 60.000.

Solution :

That: 1 rung measuring $60\text{cm} \times 20\text{cm}$

The ceramic you want to install is sized $20\text{cm} \times 20\text{cm}$

1 ceramic box filled with 25 pcs at a price of IDR 60,000.

This:
a) How many ceramics are needed?
b) How much does it cost to renovate the stairs?

a). 1 rung measuring $60cm \times 20cm$

1 sized ceramic $20\text{cm} \times 20\text{cm}$

$$\frac{60\text{cm} \times 20\text{cm}}{20\text{cm} \times 20\text{cm}} = 3 \text{ pieces of ceramic}$$

So that in 1 step requires 3 pieces of ceramic

And so, in seven steps requires

$= 7 \times 3 = 21$ pieces of ceramic

b). How much does it cost?

It is known that 7 steps require 21 tiles. In 1 box of ceramics there are 25 pcs, so 1 box of ceramics is needed at a price of IDR 60,000

So, the required cost is IDR 60,000

CONCLUSIONS AND SUGGESTIONS

Based on the research data and discussion, it can be concluded that the parts of the Saung Ranggon traditional house have ethnomathematics forms. The shape of the ethnomathematics section is as follows: (1) there is geometric material in the form of a rectangle that can be seen from the door of Saung Ranggon, the side walls can be seen from the shape of a square, the ventilation section is triangular, the inner wall is a trapezoid, the fence is shaped kites and rhombuses, as well as the circular part of the old well. (2) there is geometry material in the form of a tube which can be seen from the old well. (3) there is transformation geometry material in the form of reflections (reflection) there are axes

and axes that can be seen from the roof in the Saung Ranggon section, as well as axes that can be seen from the side walls and rear walls. (4) numeration development is used to solve cost problems.

REFERENCES

Agus Suharjana, Markaban, H. W. (2009). *Geometri Datar dan Ruang di SD*. Departemen Pendidikan Nasional.

Azmi, N. (2021). Eksplorasi Etnomatematika Dan Geometri Pada "Rumoh Aceh." *Ar-Riyadhiyyat: Jurnal Pendidikan …*. https://ejurnal.iainlhokseumawe.ac.id/index.php/ar-riyadhiyyat/article/view/1347

Ba'ru, Y., & Ranteallo, C. (2019). Penerapan Konsep Stewart Dalam Membantu Tukang Bangunan Menentukan Panjang Balok Siku. *Jurnal Keguruan Dan Ilmu Pendidikan*. http://journals.ukitoraja.ac.id/index.php/jkip/article/view/972

Bito, G. S., Fredy, F., & Setyawan, W. H. (2021). Ethnomathematics: Design of Sabuk Tradisional (Keru) Bajawa as A Learning Media For Elementary School. *... : Islamic Teacher Journal*. https://journal.iainkudus.ac.id/index.php/elementary/article/view/9835

Daiman, Y. M., & Iswahyudi, D. (2019). Penanaman Toleransi Pada Mahasiswa PPKn Dari Berbagai Budaya. *Prosiding Seminar Nasional …*. https://conference.unikama.ac.id/artikel/index.php/fip/article/view/214

Diniyati, I. A., Ekadiarsi, A. N., & ... (2022). Etnomatematika: Konsep Matematika pada Kue Lebaran. *Mosharafa …*. https://journal.institutpendidikan.ac.id/index.php/mosharafa/article/view/mv11n2_7

Ditasona, C. (2018). Ethnomathematics exploration of the Toba community: Elements of geometry transformation contained in Gorga (ornament on Bataks house). *IOP Conference Series: Materials Science and …*. https://iopscience.iop.org/article/10.1088/1757-899X/335/1/012042/meta

Hartanti, G., & Setiawan, B. (2019). Pendokumentasian Aplikasi Ragam Hias Batik Jawa Tengah Motif Kawung, Sebagai Upaya Konservasi Budaya Bangsa Khususnya Pada Perancangan Interior. *Aksen*. https://journal.uc.ac.id/index.php/AKSEN/article/view/807

Herlina, R., Somakim, S., & Hartono, Y. (2018). *Uletnomatematika Dalam Budaya Rumah Adat Palembang*. jurnal.ustjogja.ac.id. https://jurnal.ustjogja.ac.id/index.php/etnomatnesia/article/view/2428

Indriyani, S. (2018). *Eksplorasi etnomatematika pada aksara lampung*. repository.radenintan.ac.id. http://repository.radenintan.ac.id/3820/

Istiqomah, S. P. (2020). *Modul Pembelajaran SMA Matematika Umum*. https://repositori.kemdikbud.go.id/21965/1/XI_Matematika-Umum_KD-3.5_Final.pdf

Kholisa, F. N. (2021). Eksplorasi Etnomatematika Terhadap Konsep Geometri pada Rumah Joglo Pati. *CIRCLE: Jurnal Pendidikan …*. https://e-

p-ISSN 2089-8878; e-ISSN 2715-8276

journal.iainpekalongan.ac.id/index.php/circle/article/view/4225

Kurino, Y. D., & Rahman, R. (2022). Eksplorasi Etnomatematika Rumah Adat Panjalin Pada Materi Konsep Dasar Geometri Di Sekolah Dasar. *Jurnal Cakrawala Pendas*. https://www.ejournal.unma.ac.id/index.php/cp/article/view/1937

Liaupati, L. A., Soverenty, B. N. F., & ... (2022). Etnomatematika pada Rumah Adat Panggung Kranggan Bekasi. *PRISMA, Prosiding …*. https://journal.unnes.ac.id/sju/index.php/prisma/article/view/54545

Nisa, K., Rusmana, I. M., & ... (2022). Eksplorasi Etnomatematika Pada Rumah Kebaya Betawi. *Diskusi Panel Nasional …*. http://proceeding.unindra.ac.id/index.php/DPNPMunindra/article/view/5943

Rahmawati, Y., & Muchlian, M. (2019). Eksplorasi Etnomatematika Rumah Gadang Minangkabau Sumatera Barat. *Jurnal Analisa*. http://journal.uinsgd.ac.id/index.php/analisa/article/view/5942

Safitri, B. I. D., & Priscilla, B. C. (2022). Analisis Aspek Matematika dalam Rumah Adat Bajawa Nusa Tenggara Timur. *PRISMA, Prosiding Seminar Nasional …*. https://journal.unnes.ac.id/sju/index.php/prisma/article/view/54570

Sulistyani, A. P., Windasari, V., & ... (2019). Eksplorasi Etnomatematika Rumah Adat Joglo Tulungagung. *Media Pendidikan …*. http://e-journal.undikma.ac.id/index.php/jmpm/article/view/1537

Susanto, F. P. K., Heryanto, D. R., & ... (2022). Eksplorasi Etnomatematika Pada Rumah Adat Joglo Sinom Limas. *PRISMA, Prosiding …*. https://journal.unnes.ac.id/sju/index.php/prisma/article/view/54568

Widada, W., Nugroho, K. U. Z., Sari, W. P., & ... (2019). The ability of mathematical representation through realistic mathematics learning based on ethnomathematics. *Journal of Physics …*. https://iopscience.iop.org/article/10.1088/1742-6596/1318/1/012073/meta

Yuniar, S. E., Saputri, T. A., & ... (2022). Eksplorasi Etnomatematika pada Rumah Adat Bubungan Tinggi Desa Teluk Selong Ulu. *PRISMA, Prosiding …*. https://journal.unnes.ac.id/sju/index.php/prisma/article/view/54561

Yuningsih, N., Nursuprianah, I., & ... (2021). Eksplorasi Etnomatematika Pada Rancang Bangun Rumah Adat Lengkong. *Jurnal Riset Pendidikan …*. http://journal.unj.ac.id/unj/index.php/jrpmj/article/view/19517