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Ethnomathematical Exploration of Geometric Concepts in Betawi Traditional Food

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Abstract: This study aims to explore the ethnomathematical values contained in eight traditional Betawi foods, namely egg crust, goyang flowers, rangi cakes, ulite cakes, pepe cakes, dongkal cakes, ketapang seeds, and geplak cakes, and relate them to mathematics learning at the elementary school level, especially in flat building materials. Using a descriptive qualitative approach through observation and documentation, this study identifies various geometric shapes found in these foods. The results of the analysis show that flat shapes such as circles, squares, rectangles, triangles, and parallelograms are explicitly reflected in the visuals of traditional Betawi food. For example, the egg crust, shake kembang, and geplak cake show circular shapes; pepe cake and knuckle cake show square and rectangular shapes; dongkal cake is triangular; and ketapang seeds resemble the shape of a parallelogram. These findings indicate that traditional Betawi foods can be used as contextual learning media based on local culture to help students understand geometric concepts in a concrete way. In addition to the form aspect, mathematical value is also found in the measurement element, which adds to the potential for the integration of ethnomathematics in the elementary school curriculum. The visual shape of food that tends to remain unchanged confirms its existence as a traditional heritage, where shape change is considered a creation, not part of a tradition.

Keywords: ethnomathematics; geometry concepts; mathematics; traditional betawi food

INTRODUCTION

Mathematics is a discipline that not only focuses on calculating activities but also studies the logic of thinking, structures, patterns, and quantitative relationships that can be explained systematically (Awiria, Putri & Yohamintin, 2020). In the context of education, mathematics is taught from elementary school to high school, including basic materials such as numbers, geometry, measurement, and data processing. Mathematics is also considered a universal language in expressing quantities and spatial relationships that are relevant to everyday problem solving (Husna et al., 2022).

Education and culture are two entities that are closely interrelated and inseparable in the dynamics of people's daily lives. Education plays a fundamental role that must be met by every individual to develop their potential optimally, both intellectually, emotionally, socially, and spiritually (Hikmah & Maulana, 2025). Meanwhile, culture reflects the entire system of values, norms, habits, knowledge, and symbols that are embraced and inherited by a group of people in a certain space and time. Culture also encompasses the way of life, mindset, and collective identity that shape the character of a community.

Along with the times, culture has undergone a transformation influenced by changes in mindset, education level, social interaction, and technological and information advancements. The cultural change is not static but dynamic because it is influenced by the high level of intellect and critical thinking ability of the community in responding to the challenges of the times (Sinambela et al., 2025). Strengthened by research results from (Hulu, Zariah & Hulu, 2025) on learning context in the school environment, culture is not only the object of learning but also the medium and context that enriches the educational process. In research (Sabri, Kholil, & Ahmad, 2023) said that the low number of contextual teaching resources and materials in elementary schools so that the integration between education and culture is very

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important to create learning that is contextual, relevant, and able to strengthen the identity and character of the nation.

However, mathematics learning, especially at the elementary school level, often encounters obstacles. One of the main obstacles is the difficulty students have in understanding abstract concepts, such as geometry. According to (Hanan & Alim, 2023) note that understanding of geometry concepts is often low due to the lack of concrete support in the learning process. This is in line with Jean Piaget's theory of cognitive development, which states that elementary school-aged children are at a concrete operational stage, where their understanding is still highly dependent on real objects and situations of daily life.

The low learning outcomes of students in flat building materials can be caused by various interrelated pedagogical factors, including the use of concrete learning media that is less than optimal or even not used at all in the learning process (Andyana & Maharbid, 2024). In addition, the application of conventional and monotonous learning methods, without a variety of strategies, and the lack of active involvement of students in the learning process are also the cause of the decline in learning effectiveness. Not only that, the presentation of material that tends to be abstract and not contextually related to the environment or real experiences in students' daily lives is also an obstacle in improving the understanding of geometry concepts, especially flat buildings (Andyana & Maharbid, 2024). This condition has the potential to hinder the achievement of the main goal of mathematics learning at the elementary school level, which is to form students' logical, analytical, and applicative thinking skills in solving contextual problems that are relevant to the real world. Therefore, a more innovative, contextual, and student-centered learning approach is needed so that the understanding of flat building materials can be optimally improved.

Geometry itself is a branch of mathematics that is close to the visual reality of students because almost all objects around them have geometric shapes (Andriliani et al., 2022). Therefore, geometry learning should ideally be delivered through contextual media and based on the student environment. One approach that can be used is ethnomathematics, that is, the study of how mathematical concepts and practices develop in the context of the culture of society (Putra & Prasetyo, 2022). Ethnomathematics views that each cultural group has a unique way of applying mathematics, such as measuring, calculating, designing buildings, or making patterns. This approach provides a space for students to understand mathematics through relevant and concrete cultural experiences (Patri & Heswari, 2022). In addition to improving understanding of concepts, ethnomathematics-based learning also strengthens local cultural identity and prevents culture from extinction (Nurulaeni & Rahma, 2022). Ethnomathematics is an innovative pedagogical approach to mathematics learning, especially in the introduction of geometry concepts, by integrating elements of local culture as a learning context (Maharbid et al., 2025). This approach is based on the view that mathematics is not only universal and abstract but also the result of social and cultural constructions that are reflected in various aspects of people's lives, such as language, traditions, symbol systems, artifacts, the environment, and patterns of local activities that contain mathematical elements.

Strengthened in research (Lubis et al., 2024) by using ethnomathematics, the mathematics learning process becomes more relevant and meaningful for students because it is directly related to real experiences, cultural backgrounds, and initial knowledge that students have had. Through exploration of cultural forms such as traditional ornaments, batik patterns, regional games, and historical building architecture, students can learn geometric concepts such as symmetry, two- and three-dimensional shapes, patterns, and transformations contextually (Simbolon, 2024). This not only strengthens the understanding of mathematical concepts conceptually and visually but also fosters cultural awareness and a sense of belonging to local cultural heritage.

Jakarta, as the capital city of Indonesia, has a rich Betawi culture, including in its traditional culinary aspects (Parantika, 2025). Traditional Betawi foods such as Kerak Telor, Rangi, Pepe, Dongkal, Kembang Goyang, Uli, Biji Ketapang, and Geplak Not only does it contain historical and cultural value, but it also stores mathematical concepts, especially in geometric shapes and patterns. For example, a circular egg crust can be a medium for introducing the properties of flat building to elementary school students. However, the results of observations show that ethnomathematical studies in the context of traditional Betawi food are still very limited. Therefore, further exploration is needed to integrate these elements of local culture into mathematics learning, particularly flat building geometry materials. The use of traditional food as a teaching medium not only provides a fun and contextual learning experience but also preserves local cultural heritage that is threatened by the current of modernization (Yasmin, Nurcahyanto & Marom, 2024).

In an effort to develop a contextual learning model, this study aims to explore the ethnomathematical values contained in eight traditional Betawi foods, namely Kerak Telor, Rangi, Pepe, Dongkal, Kembang Goyang, Uli, Biji Ketapang, and Geplak, and relate them to mathematics learning at the elementary school level, especially in flat building materials. This approach is expected to be an alternative solution to students' low understanding of geometry, as well as a contribution to the preservation of local culture through meaningful mathematics education.

METHODS

This research uses ethnographic research, which aims to explore and understand how mathematical concepts are applied in traditional Betawi foods. Ethnographic research allows researchers to delve into the culture, way of making, and concept of flat building geometry in mathematics. The instrument used by nature in this research is the researcher himself. The data collection techniques include 1. Observation: The researcher has made observations in Jakarta and surrounding areas, which were chosen because it is one of the areas of the majority Betawi tribe community that serves a lot of traditional food in traditions and other events.

The researcher also made direct observations on the manufacturing process of the traditional Betawi food. 2. Interview, with a semi-structured interview technique and selected respondents, namely several data sources consisting of 1 historian who is an expert in the field of Jakarta history, 8 Betawi traditional food makers, and 5 Betawi traditional food buyers from the age group. 3. Documentation: this is a form of writing, be it an article. The data analysis process includes data reduction, data presentation, and conclusion drawing (Sugiyono, 2019). The results of data collected through observations, interviews, and documentation about traditional Betawi foods were then reduced by selecting relevant information for this study.

RESULTS AND DISCUSSION

Based on the results of the research conducted by the researcher, to describe the findings obtained. There are a variety of cultures in Indonesia, with DKI Jakarta as one of the places that has a distinctive culture, namely Betawi culture. Traditional Betawi food is an integral part of the culture of the Betawi people, an ethnic group that developed in the Jakarta area formerly known as Batavia. Betawi culture is the result of a mixture of various ethnicities and nations, including Sundanese, Javanese, Malay, Chinese, Arabic, Indian, and Dutch. This ethnic diversity occurred due to Batavia's strategic position as an important port during the Dutch colonial period. In the context of the Betawi community, many traditional foods have a distinctive shape and contain the concept of flat building geometry. Through the exploration

of the shape and structure of these foods, we can explore mathematical understanding, especially the geometry of flat buildings, in a contextual and engaging way.

Based on the results of observations carried out directly in the field, it was found that the shape structure of ten types of traditional Betawi food contains elements of the concept of flat building geometry. These findings suggest that the visual design or physical form of these foods has indirectly represented different types of flat shapes in geometry. The types of flat buildings that were successfully identified included the shapes of a circle, square, rectangle, triangle, and parallelogram. These findings indicate a link between elements of local culture in the form of culinary and basic concepts in mathematics, especially geometry.

The following are traditional Betawi foods in which the mathematical concept of flat building geometry is obtained, including the following:

- Rangi Cake

The rangi cake in the mathematical concept of flat building geometry has a rectangular shape. It was found that there is a geometric concept of a rectangular flat building geometry because it consists of two pairs of sides facing the same length and opposite sides of parallel and equal length. Rangi cake, also known as sago rangi, is a type of traditional Betawi food that has a distinctive taste and a unique manufacturing process (Budiyanti, 2023). This cake is made from a starch-based ingredient mixed with coarsely grated coconut, creating a chewy texture on the inside but slightly crispy on the surface after baking. The combination of starch and coconut produces a distinctive savory flavor combination while reflecting the use of simple yet nutritious local ingredients. In the past, the process of baking rangi cakes was traditionally carried out using coal from firewood or charcoal as the main heat source. This technique not only gives the cake a distinctive aroma but also reflects local wisdom in utilizing the surrounding natural resources.

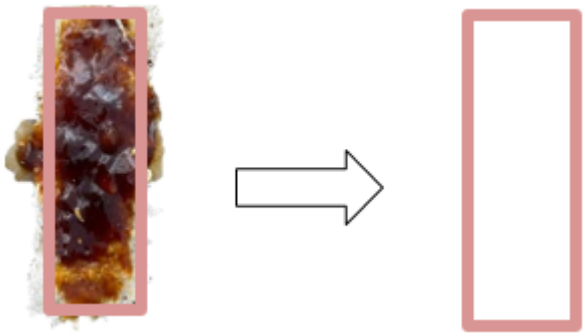


Figure 1. Rangi Cake

Another uniqueness lies in the use of brown sugar sauce as a topping, which is thickened using a little starch. To enhance the taste and aroma, this brown sugar sauce is often combined with pieces of tropical fruits such as jackfruit, pineapple, and even durian, which gives the cake a distinctive sweet and fragrant sensation. One of the advantages of Rangi cake is its ability to maintain the traditional production process consistently to this day. Although many similar foods have switched to modern technology such as gas or electric stoves, Rangi cakes still use a wood-fired baking technique that not only maintains the authenticity of the flavor but also produces a crispy texture and authentic aroma. In addition, this cake has a fairly good durability at room temperature, which can last between two to three days without experiencing significant quality changes. This makes Kue Rangi one of the typical Betawi souvenirs that deserves to be maintained and introduced more widely, both as a culinary heritage and as a local cultural identity. Although many of the baking processes have now switched to modern technology such as stoves or special molds, the traditional method is still

maintained by some people to maintain the authenticity of the taste and historical value of the rangi cake itself.

- Egg Crust

The egg crust in the mathematical concept of flat building geometry has a circular shape. It was found that there is a concept of flat geometry of a circle because it has no angles or sides, and circles have infinite rotational and folding symmetry because their shape is uniform from all directions. Kerak telor is one of the traditional Betawi culinary specialties that has been present since the Dutch colonial period and has high historical value. This food is known for its Dutch uniqueness in terms of taste, ingredients, and the manufacturing process. Along with its long-known existence among colonial people, including the Dutch, who also appreciated the taste of egg crust, it is not surprising that the exact origin of this food is difficult to trace clearly. Kerak telor is often referred to as one of the concrete examples of the results of culinary cultural acculturation between the Betawi people with various foreign influences, especially European (Dutch), Chinese, and Arab, which at that time also shaped the cultural identity of the urban community in Batavia (now Jakarta) (Rahayu et al., 2024).

This food is made from main ingredients such as white glutinous rice, chicken or duck eggs, coconut serundeng (roasted grated coconut), and special spices consisting of shallots, garlic, kencur, red chili, salt, and pureed ebi (dried shrimp). In the traditional process, the egg crust is cooked on a small clay pan using charcoal as a heat source. Once half-cooked, the pan will be flipped over so that the crust forms at the bottom and gives it the crispy texture and distinctive aroma that is the main attraction of this food. At the beginning of its appearance, egg crust was not widely consumed by the community and was even considered a special food that was only made in certain moments or traditional ceremonies. But now, kerak telor has become a culinary icon of Jakarta that is often present at various cultural festivals and tourism events. Although the presentation is now more flexible and can be found in various places, the egg crust still retains its traditional cooking methods and ingredient compositions, which makes it an authentic symbol of Betawi cuisine.

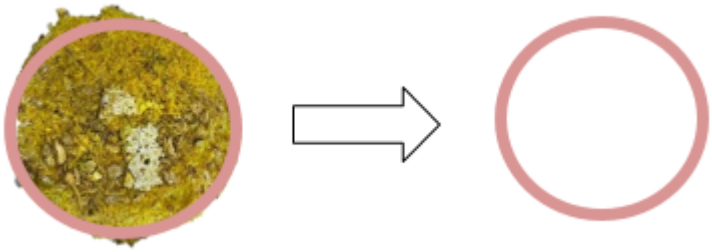


Figure 2. Egg Crust

- Ketapang Seeds

Squirrel Seeds In the mathematical concept, flat building geometry has a parallelogram shape. It was found that there was a concept of geometric flatness of a parallelogram because it does not have folding symmetry. Because it is slanted in shape, it cannot be folded into two symmetrical parts. Ketapang seeds are one of the traditional snacks that originated from the Betawi community, Jakarta. This snack is very popular, especially at special moments such as Eid al-Fitr, family celebrations, and treats for guests in various social activities. Although the name contains the element of "ketapang," the ketapang seeds in question are not seeds from the actual ketapang tree (Terminalia catappa) but refer to the shape of a cake that is small, oval, and resembles the seeds of the ketapang tree (Hidayat, Kandriasari & Alsuhendra, 2024). In general, ketapang seeds are made from a mixture of wheat flour, eggs, margarine or butter, sugar, and coconut milk or water. The batter that has been proofed is then cut into small pieces resembling a seed shape and fried in hot oil until golden yellow and has a crispy

texture. The resulting savory-sweet taste makes ketapang seeds popular with all groups, from children to adults.

Ketapang seeds are not only enjoyed as a daily snack but also have an important role in the social life of the Betawi people. This cake is often used as a mandatory treat during Eid, reflecting the hospitality of the host in welcoming guests. Its presence in moments of togetherness makes ketapang seeds a symbol of familiarity, simplicity, and kinship. In the midst of the Betawi family, the process of making ketapang seeds also often involves all family members. This activity is a means of gathering, sharing stories, and strengthening relationships between generations. The tradition of making and serving ketapang seeds for generations makes it part of the Betawi cultural identity that is important to be preserved.

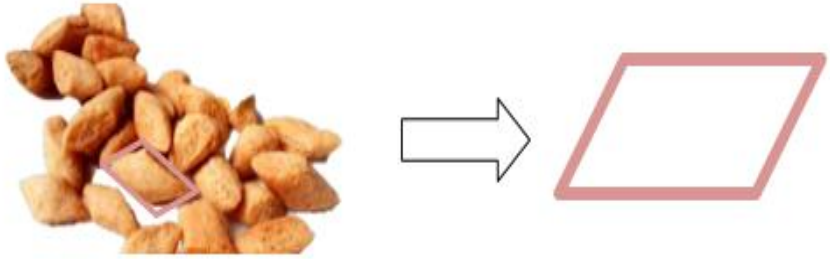


Figure 3. Ketapang Seeds

- Pepe Cake

The Pepe cake in the mathematical concept of flat building geometry has a square or rectangular shape. It was found that there was a concept of square flat building geometry because all sides were of the same length and the opposite sides remained parallel to each other. It was found that there is a geometric concept of a rectangular flat building geometry because it consists of two pairs of sides facing the same length and opposite sides of parallel and equal length. Pepe cake, also known as layer cake, is one of the traditional Betawi foods that is still popular among the community, especially in various celebrations and traditional events. Although this cake is also found in other regional culinary cultures in Indonesia, the Betawi pepe cake variant has its own characteristics in terms of taste, color, texture, and presentation philosophy.

Pepe cake has been known since colonial times and is part of the Peranakan culinary tradition that developed in the Batavia area (now Jakarta). The name "pepe" itself is believed to come from a term in the Betawi language that refers to the gradual steaming process. This cake reflects the philosophy of patience, perseverance, and diversity, as the layers of color are carefully arranged one by one (Rudhito, Putra & Jonathan, 2024). In Betawi culture, pepe cake has an important role as a serving in thanksgiving, congratulations, weddings, and religious holidays, such as Eid and the Prophet's Birthday. Its multi-layered shape and arrangement are believed to symbolize a colorful, tiered, and harmonious life expectancy.

The ingredients used in making pepe cake are wheat flour, sugar, chicken eggs, butter/margarine, coconut milk, water, salt, and food coloring. This ingredient is mixed evenly into a dense dough and then cut according to taste. The hallmark of pepe cake lies in its chewy texture, balanced sweet-savory taste, and its colorful and neat layered appearance. The pieces of the cake are usually square or rectangular, which are basic geometric shapes and are easy for children to recognize, so they are also often used in ethnomathematical approaches in elementary-level learning. The colorful cake is not only to attract attention but also to symbolize the cultural diversity and harmony of the Betawi people, who coexist in a plurality of ethnicities and religions. This gradual steaming technique requires precision and patience, making pepe cake not only a culinary product but also a symbol of Betawi cultural values that uphold perfection and aesthetics in diversity.

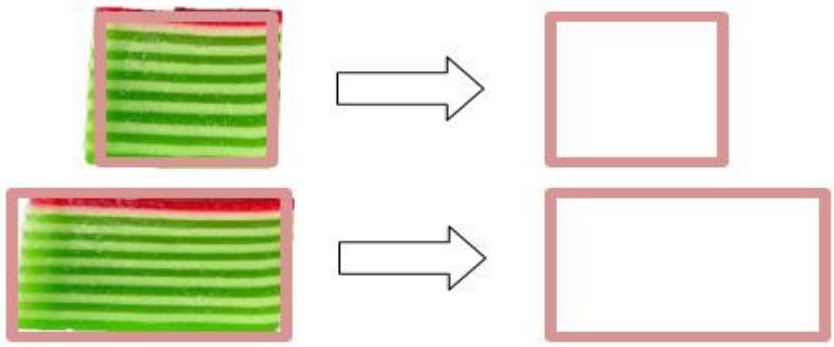


Figure 4. Pepe Cake

- Dongkal Cake

The Dongkal cake in the mathematical concept of flat building geometry is in the shape of a triangle. It was found that there is a concept of a triangular flat building geometry because it has a rotational symmetry of 1 full rotation (360 degrees) and has three angles and 3 high lines. Squirt is one of the typical traditional foods of the Betawi people that can still be found today, although it is no longer as popular as other modern pastries. Its existence is synonymous with market snacks and is an important part of the traditional culinary map in the Jakarta area and its surroundings. Its sweet and savory taste, as well as its distinctive manufacturing technique, make dongkal cake an intangible cultural heritage that reflects the creativity and local wisdom of the Betawi people. Dongkal cakes have been known since ancient times and are commonly served in various traditional events, recitations, and even breakfasts sold around by traditional traders. This cake has similarities to putu cake, especially in terms of ingredients and taste, but the difference lies in the size and way it is served. The name "dongkal" refers to its unique manufacturing technique, which is steaming in a cone-shaped container such as tumpeng (usually from woven bamboo or a cone-shaped baking sheet), and when cooked it will form a cone-shaped piece, triangle, or conical slice, distinctive and easily recognizable (Carawita, Dwiyanti & Mardiyanti, 2023). From a cultural perspective, dongkal cakes reflect simplicity, family, and the philosophy of mutual cooperation. The process of making it is relatively long and often carried out together, making this moment a form of social interaction and cohesiveness of the Betawi community.

Dongkal cake has traditional ingredients, including glutinous rice flour, brown sugar, grated coconut, salt, pandan leaves, and water. The dongkal cake has a pale white color with a brownish tinge of brown sugar filling in the middle. The texture is soft yet dense, with a savory flavor from grated coconut and sweetness from melted brown sugar. The fragrance of pandan gives a special aroma that adds to the taste. The shape of the pieces, which resemble a flat shape of a triangle or a conical slice, makes it attractive from an aesthetic point of view and is very suitable as an example in the ethnomathematics learning approach at the elementary education level.

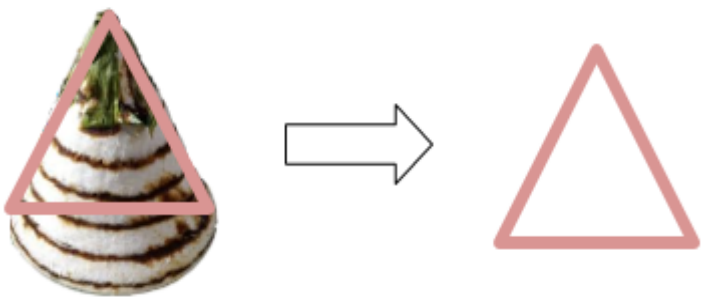


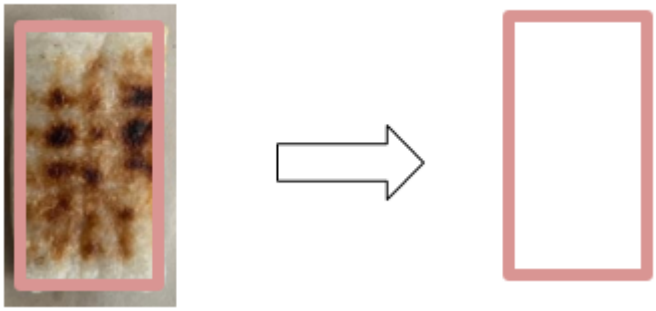
Figure 5. Dongkal Cake

- Uli Cake

The kneading cake in the mathematical concept of flat building geometry has the shape of a rectangular square. It was found that there is a geometric concept of a rectangular flat building geometry because it consists of two pairs of sides facing the same length and opposite sides of parallel and equal length. Uli is a type of traditional Betawi food that is still preserved by the community, especially in the context of culture and traditional ceremonies. The simple taste, natural ingredients, and philosophy behind its presentation make knule not just an ordinary food but an important symbol in the social life of the Betawi people. This food is often found at religious moments, Islamic holiday celebrations, gatherings, and family celebrations..

Uli cake has been known since ancient times among the Betawi people. The name "uli" comes from the Betawi language, which means "dikling" or "pounded," according to the manufacturing process, which requires pounding sticky rice until it is soft and fused (Dewantara, 2021). This tradition shows the value of cooperation and togetherness, because the process of mashing sticky rice is usually carried out in cooperation by families or the surrounding community. Knot cakes are often served along with other traditional cakes such as glutinous rice cakes, knot tape, and diamonds in a large trash or tray. The presentation contains the meaning of togetherness and abundance of sustenance. Uli is also often used as an offering in Betawi traditions, for example, during the celebration of a new house, the birth of a child, or as part of a proposal and marriage delivery.

The main ingredients in making kneaded cakes are very simple and based on local food ingredients that are easy to find, including white glutinous rice, grated coconut, salt, coconut oil/vegetable oil, and water to taste. Kneading cakes are visually square or dense rectangles. The white or beige color comes from sticky rice and coconut, which are the dominant ingredients. The texture is chewy and a bit sticky when still warm, but it becomes denser after cooling. Uli has a natural savory flavor from coconut and a little saltiness from salt, making it suitable to eat with sweet accompaniments such as black glutinous rice tape or liquid brown sugar. From the ethnomathematical side, the shape of the knot cake in the form of a square or rectangular shape can be used as a geometry learning medium at the elementary education level.



Picture 6. Uli Cake

- Geplak Cake

Kue Geplak In the mathematical concept, flat building geometry has a circular shape. It was found that there was a geometric concept of building a flat circle because it had no corners or sides, and circles had infinite swivel and folding symmetry because their shape was uniform from all directions. A typical Betawi gem is one of the traditional culinary heritages that has been present since the beginning of the 20th century, or around the 1900s (Elsty, 2021). The existence of this cake did not appear suddenly but through a long process influenced by various factors, such as the abundance of local foodstuffs, the creativity of the

Betawi people in the past, and the sociocultural needs that accompany the preservation of traditions. Geplak Cake was born from an ecosystem environment rich in agricultural products, especially rice, which is the main ingredient for making this cake. Apart from being a staple food source, rice in the Betawi tradition is also interpreted as a symbol of prosperity and the glue of social relations between community members.

Geplak Betawi cake is made from rice flour processed with grated coconut and sugar, creating a distinctive sweet taste and chewy texture. This cake is not just an ordinary snack, but it has a deep cultural meaning. He is often present in various sacred and ceremonial moments, such as proposal processions, Betawi traditional weddings, and the celebration of religious holidays such as Eid al-Fitr. Therefore, the existence of the Geplak cake represents the cultural identity of the Betawi people and becomes a symbol of harmony in important life events. Although Geplak cake is quite well known and preserved among the original Betawi people, its existence is not widely known by other ethnic groups living in the DKI Jakarta area, especially by domestic and foreign tourists who come to visit. This shows that there are challenges in promoting and educating traditional culinary as part of the local cultural richness.

Consuming Geplak cake is not only about tasting its sweetness or unique texture but also about using it as a means to explore the historical, philosophical, and cultural values contained in it. Each layer of this cake holds a story that is closely related to the civilization, norms, and habits of the Betawi people. Thus, Geplak cake has great potential to be developed as part of an interesting and educational cultural tourism product. In addition, the term or tradition related to Geplak cake, which is now rare or even almost extinct in urban society, must be viewed from the perspective of cultural preservation. Although its existence is more commonly found among the older generation of the Betawi people, this is actually a strong reason why Geplak cake needs to be preserved. This cake is not only about food but also a form of cultural expression that is part of the collective identity of the people of DKI Jakarta. The preservation of Geplak Betawi cake as one of the culinary cultural assets is very important to enrich the region's cultural treasures. Efforts to revitalize local culinary traditions, both through education, tourism promotion, and learning in schools, are strategic steps in maintaining the existence of cultural heritage in the midst of globalization..

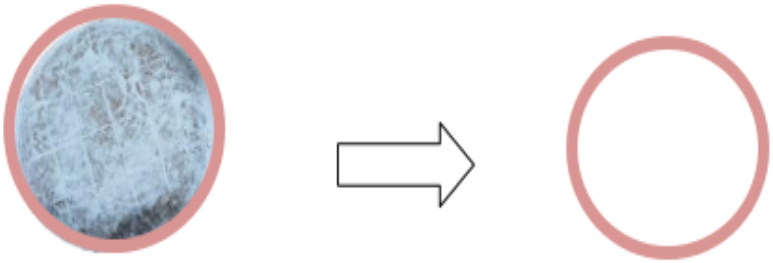


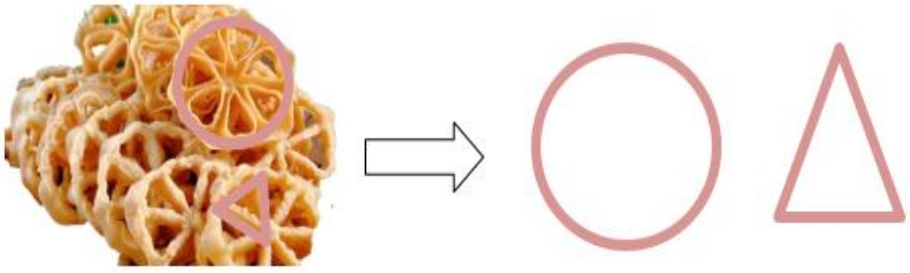
Figure 7. Geplak Cake

- Rocking Flower Cake

Flower Cake, in the mathematical concept of flat building geometry, has a circular shape, and there is a triangular shape on the element of the flower shape model in it. It was found that there was a concept of the geometry of a flat circular building because it had no corners or sides, and a circle had an infinite swivel and folding symmetry because the shape was uniform from all directions, and it was found that there was a concept of a triangular flat building geometry because it had a rotational symmetry of 1 full turn (360 degrees) and had three angles and 3 high lines. Rocking Flowers is a type of traditional cake that originated in Indonesia and has long been part of the culinary heritage of the community, especially in the Betawi region. The name "kembang goyang" comes from its visual shape that resembles a

flower (kembang) and its unique way of making it, where the dough is shaken in hot oil so that it looks like a flower that is swaying (Dewi, Hairiza & Limbong, 2020).

This cake is generally made from rice flour, which is mixed with sugar, coconut milk, and additional ingredients in the form of traditional spices such as ginger, vanilla, or cinnamon. These spices not only provide a distinctive appetizing aroma but also enrich the flavor of the cake, making it more complex and distinctive compared to modern snacks.The process of making rocking flower cakes requires special techniques and skills. The well-mixed dough is put into a flower-shaped metal mold, then dipped in hot cooking oil. The "shake" technique is done by shaking the mold until the dough comes off and floats on the surface of the oil. This process results in a cake shape that resembles a blooming flower and has a crispy texture after being fried until golden in color. The golden color is an indicator of maturity and provides a crispy sensation when bitten.



Picture 8. Rocking Flowers Cake

Rocking flower cake is not only present as a snack but also has important social and cultural value. This cake is often found in various traditional events, such as traditional celebrations, wedding parties, and Thanksgiving, and as a dish during religious holidays such as Eid al-Fitr and Eid al-Adha. In addition, this cake is also widely used as a typical regional souvenir because of its unique shape and tempting taste. With a combination of sweet and savory flavors and a touch of soft spice aroma, goyang flower cake is one of the culinary dishes that is still popular across generations. The existence of this cake is not only a food but also reflects the cultural identity and traditions of the local people that have been passed down from generation to generation. In the midst of the onslaught of modern food, the preservation of shake flower cakes is important so that the younger generation continues to know and appreciate the richness of traditional Indonesian cuisine, especially from Betawi culture.

CONCLUSION

Ethnomathematical exploration through traditional Betawi food shows that the concept of flat building geometry can be found naturally in people's culinary practices. Foods such as egg crust, rangi cakes, pepe cakes, and others are not only cultural heritage but also effective and contextual mathematics learning media. Integrating local culture in mathematics learning not only enriches the learning process but also fosters a love for local wisdom. The mathematical concepts found include geometric shapes such as circles, squares, rectangles, triangles, and parallelograms. For example, egg crust, geplak cake, and shake flowers represent a circle shape; pepe cake and uli cake display square and rectangular shapes, while dongkal cakes are triangular in shape, and ketapang seeds show variations in the shape of parallelograms. The representation of this form shows that traditional food can be a concrete means of explaining abstract mathematical concepts to elementary school students. The form of this traditional Betawi food tends not to change because if it changes, it is called creation, not tradition. These findings show that traditional food not only has cultural value but can also

be used as a contextual learning medium in the educational process, especially in mathematics learning at the elementary school level.

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