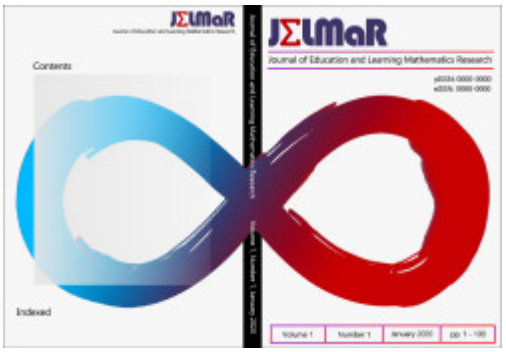

**Journal of Education and Learning Mathematics Research (JELMaR)**

Online ISSN : 2715-9787
Print ISSN : 2715-8535
Journal Homepage : http://jelmar.wisnuwardhana.ac.id/index.php/jelmar/index

# Ethnomathematical Exploration of The Admission Schedule for The Five Timely Prayers

**Indah Nur Wahidatun Niswatin, Lutfiyah, Indah Rahayu Panglipur**

**To cite this article** Niswatin, I., lutfi, L., & Panglipur, I. (2025). Ethnomathematical Exploration of The Admission Schedule For The Five Timely Prayers. *Journal of Education and Learning Mathematics Research (JELMaR)*, *6*(2), 130-137. https://doi.org/10.37303/jelmar.v6i2.3841

**To link this article:** https://doi.org/10.37303/jelmar.v6i2.3841



**Publisher**
Department of Mathematics Education,
Faculty of Teacher Training and Education,
Universitas Wisnuwardhana Malang

Journal of Education and Learning Mathematics Research (JELMaR)
Volume: 6, Number: 2, November 2025, pp. 130-137
p-ISSN: 2715-8535, e-ISSN: 2715-9787

*Received: 30 July 2025* *Revised: 30 August 2025* *Accepted: 30 September 2025* *Published: 3 November 2025*

# Ethnomathematical Exploration of The Admission Schedule for The Five Timely Prayers

**[1*]Indah Nur Wahidatun Niswatin, [2]Lutfiyah, [3]Indah Rahayu Panglipur**
Department of Mathematics Education, Faculty of Teacher Training and Education, University PGRI Argopuro University of Jember, Indonesia
[*]*Email: indahwahida026@gmail.com*

***Abstract**: An introduction to the practice of the five daily prayers in islam has become an integral part of the lives of muslims worldwide. The adhan, the call to prayer, is recited five times daily, marking the designated, times for worship. However, beyond its spiritual aspect, the adhan schedule also reflects a fascinating mathematical system, influencing and reflecting the relationship between time, geometry,and the daily lives of muslims. An ethnomathematical exploration of the adhan schedule for the five daily prayers from an ethnomathematics in the learning process can enrich teaching materials by connecting these aspects to students' cultures. The method used in this study is a qualitative approach with an ethnographic approach, where data is collected through observation, interviews, and documentation.*

***Keywords**: adhan schedule, ethnomathematics, culture*

## INTRODUCTION

Mathematics is often considered a universal discipline, but in reality, its application is heavily influenced, by cultural context and local needs. One interesting example of the relationship between mathematics and culture is the scheduling of the call to prayer for the five daily prayers in islam. The five daily prayers are a fundamental aspect of muslim religious practice, involving the timing of prayers based on the movement of the sun.

Mathematics is a field of study that plays a vital role in everyday life, both in academic contexts and in various practical aspects of life. Mastery of mathematics is essential because nearly every activity, from simple things like personal financial management to strategic decision-making in business and government, involves mathematical principles. Therefore, this subject is taught from elementary to secondary school, with thw hope that students can understand and apply mathematical concepts in their lives. However, it is not uncommon to find that many students struggle with mathematics. This difficulty is often caused by the abstract nature of mathematics, which can challenge students in understanding concepts that are not always tangible or directly related to their daily experiences (Moh Khoirus Solihin, Lutfiyah, 2025).

Mathematics and culture are something that cannot be avoided in everyday life, because culture is a complete and comprehensive unity, applicable in a socienty while mathematics is knowledge that humans use in solving everyday problems. However, sometimes mathematics and culture are considered as something separate and unrelated (Hardiarti, 2017). According to Gardes said that ethnomathematics is mathematics applied by certain cultural groups, such as: certain class groups of socienty, labor/farmer groups, children, professional classes and other.

Exploration in ethnomathematics in volves exploring and analyzing how mathematical concepts emerge, develop, and are applied within a specific cultural context. Ethnomathematics offers a fresh and engaging approachto mathematics learning. By exploring the relationship between mathematics and culture, researchers can create more meaningfull and relevant learning experiences for students. Undoubtedly, ethnomathematics exploration has been widely used in various contexts, including local wisdom, culture, and history (Rahayu Sandra Devi, Indah Rahayu Panglipur, 2024).

D'Ambrosio (Lutfiyah et al., 2023) connects the meaning of mathematics and the meaning of culture in his articel which states that: "ethnomathematics is the mathematics which is practiced among identifiable, cultural groups such as national-tribal socienties, labor group, children of a certain age bracket, professional classes, and so on." This statement can be interpreted as meaning that ethnomathematics is mathematics practiced by a cultural group, such as ethnic-national communities, labor groups, children of a certain age group, professional classes, and so on. This means that ethnomathematics is mathematics done by a group of people from any cultural group, not just the previous society.

Bishop (1994) stated that mathematics is a from of culture. Mathematics, as a from from of culture, has been integrated into all aspects of social life. Furthermore, Pinxten (1994) stated that mathematics is essentially a symbolic technology that grows out of culturally based skills or activities (Tandililing, 2013). Thus, a person's mathematics is influenced by their cultural background, as they learn based on what they see and feel. Culture influences individual behavior and plays a significant role in the development of individual understanding, including mathematics learning.

The adhan, linguistically, means to announce. According to islamic law, it announces the time for the obligatory prayer. Therefore, we can understand the adhan as a signal to inform muslims that the time for prayer has arrived. The adhan comes in various forms, as its chanting is usually adapted to local customs. Therefore, the adhan is very beatiful and melodious, such as the adhan of Mecca, Medina, Egypt, Turkey, and Indonesia (SUHARLI, 2022)

The adhan, or call to prayer, is determined by specific times of the day: Dhuhr, Asr, Maghrib, Isha, and Subuh. Scheduling these times depends not only onthe position of the sun but also requires a deep understanding of mathematics, particularly in calculating the angel of the sun and changes in the length of shadows. Therefore, scheduling the adhan combines elements of astronomy and mathematics with religous practice. According to (Maimun M., 2013), the adhan for prayer refers to specific times calculated based on the position of the sun, which indicates changes in position from one point to another, such as sunrise, midday, and sunset. This measurement requires the application of mathematics in the form of calculating angles and time.

According to interviews with the Balung community, like many other places in Jember Regency, prayer times are determined by calculating the sun's position and celestial movements. This involves using simple devices or even direct observation of the sun and shadows to determine prayer times.

However, in addition to cultural and astronomical factors, determining the call to prayer schedule often relies on mathematical concepts such as trigonometry and geometry, which are used to measure the angular position of the clock's hands at the start of the call to prayer. Therefore, an ethnomathematical exploration of the call to prayer schedule for the five daily prayers in Balung district can provide insight into how local mathematics is applied in religious practices and how the people of Jember utilize their mathematical knowledge in their daily lives.

Furthermore, by examining ethnomathematics at the beginning of the call to prayer, we can gain a deeper understanding of how mathematical knowledge is not only a product of the formal education system but also an integral part of cultural tradition and practices. This research not only enriches our understanding of the application of mathematics in religious contexts but also underscores the importance of the relationship between mathematical knowledge and cultural context in everyday life.

This ethnomathematics exploration of determining prayer times in Jember Regency can provide a deeper understanding of how local cultures use mathematical knowledge in everyday life, sometimes unconsciously. This use of mathematics in religious life also

demonstrates that mathematics is not merely an abstract concept but a vital part of social and cultural life.

Ethnomathematics has significant implications for mathematics education, as it connects abstract mathematical concepts with relevant cultural contexts in people's lives. According to (Nasution H., 2017), by understanding ethnomathematics in a religious rituals such as prayer, mathematics learning can be more easily understood and accepted by students. This suggests that ethnomathematics-based mathematics education can enrich the understanding of mathematical concepts through local cultural contexts. Several studies have also revealed the application of ethnomathematics in religious and cultural contexts. For example, research condected by (Gagandhi, 2016) on ethnomathematics in the practice of calculating the time of the call to prayer shows that many communities rely on local wisdom and inherited experience in determining prayer times by utilizing observations of the sun and the surrounding environment.

This ethnomatematics exploration study on the five daily prayer call schedules in Jember Regency is urgently needed from several perspectives, including education, culture, and understanding the relationship between mathematics and religion in people's daily lives. The first urgencyof this research is to explore how ethnomathematics, particularly related to the call to prayer schedule, can be used as a contextual mathematics learning model. This research utilizes the local knowledge of the Jember community regarding the calculattion of the call to prayer times, which involves understanding the position of the sun and measuring time. This research is expected to serve as a reference source for further research. Second, it is important to demonstrate how mathematical and scientific concepts, such as trigonometry and time measurement, can be applied in everyday life. This research helps understand ethnomathematics in everyday concepts.

Thus, research on ethnomathematics in the five time prayer call schedule in Jember Regency, particularly Balung District, is expected to provide new insights into how culture and religion are interconnected with the application of mathematics in community life, as well as contribute to a broader understanding of ethnomathematics. This study aims to understand the mathematical aspects contained in the five time prayer call schedule from an ethnomathematics perspective by identifying and analyzing the call times related to trigonometry.

## METHOD

The method used in this research is a qualitative approach utilizing ethnograpy. The purpose of ethnographic research is to describe the mindset, traditions, language, beliefs, and behaviors of a community. This research focuses on analyzing cultural phenomena that provide insight into the way of life of the subjects being studied. This study exsplores how the subjects think, live, and interact. Subject selection is based on unique events or events that are rarely noticed by many people.

In qualitative reserach, data is obtained from various sources using various data collection techniques (triangulation). Qualitative analysis, according to Bogdan and Biklen, as quoted by Moleong (2005: 248), is an effort to"organize data, sort it into manageable units, synthesize it, search for and find patterns, discover what is important and what is learned, and decide what can be told to others" (Hasan et al., 2022)

According to Bogdan and Bitland, data analysis is the process of systematically searching and arranging the result of inyerviews, notes, and materials collected to increase understanding of all things collected and the possibility of presenting what is found. Bogdan states that data analysis is theprocess of systematically searching and arranging data obtained from several result, namely: field observations, interviews, documentation (Amirudin & Asikin, n.d.).

The data in this study were systematically collected regarding the lifestyle, social activities, and various cultural elements within the community. The research instrument

was a religious figure, with the researcher serving as the primary instrument, irreplaceable by others. In this context, the researcher interacted directly with the research subjects and acted as a data collector through several methods, as follows:

1. Literature collection, namely by increasing literacy from various sources as reference material.
2. Interviews are a data collection technique through information from a religious figure in Tutul village with the aim of gaining insights regarding the application of mathematical concept in everyday life.
3. Documentation, namely the systematic activity or process of collecting, searching, investigating, using, and providing documents. This begins with the collection of visual data and related information, such as the times of the call to prayer for the five obligatory prayers. The goal is to obtain information, enlighten knowledge, and evidence, and disseminate it to users.

## RESULT AND DISCUSSION

The relationship between trigonometry and prayer times

| Prayer Times | Natural Phenomena | Trigonometry Concepts UsedD |
|---|---|---|
| Subuh | Dawn occurs ehen the sun is 20° from the horizon | Angle of declination, sine function |
| Dhuhr | The sun is directly overhead (culmination) | Local latitude and time calculations |
| Asr | Shadow > height of object | Tangent: $\tan(\theta)$ = height / shadow |
| Maghrib | The appearance of a red mega | The sun's angel is around $-0.833°$ degrees below the horizon |
| Isha | Total darkness after sun $-18°$ | Like subuh |

Before calculating the schedule for the five daily prayer calls, it is best to know the following six terms:

a. The sun's height is the distance along a vertical circle measured from the horizon to the sun. In astronomy, it is called irtifa'us Syams, which is usually notated as the height of the sun. The sun's height refers to the sun's apparent height at the beginning or end of prayer times.The symbol "h", short for high, is used to represent the sun's height. Before determining the schedule for the five daily prayers, it is sometimes necessary to calculate the sun's height at the prayer times that have already been performed.
   1. Dhuhr : $0°$
   2. Asr : $\cot h = \tan(\pi - \delta) + 1$
   3. Maghrib : $-1°$
   4. Isha : $-18°$
   5. Subuh : $-20°$

b. The sun's declination ($\delta$) is the distance of the sun from the equator line measured along the circle of time so that the sun passes through the center point.

c. Equation of time (EoT) is the difference between the actual (true) time of solar culmination and the assumed constant (median) time of solar culmination. True solar time is the actual time of the sun's orbit, while mid-solar time is the assumed constant orbit time as seen on a clock.

d. Regional time is the time defined only for a specific longitude (Java Time: GMT+07.30).

e. Latitude ($\varphi$) is the distance of a location from the equator, measured to the earth's poles. North latitude is defined as the area north of the equator and has a positive value, while south latitude is defined as the area south of the equator and has a negative value.

f. The solar time angle ($t_0$) is the arc along the sun's diurnal circle, measured from the point of upper culmination to the sun'sposition. The solar time angle can be calculated using the formula: $\cos t_0 = -\tan \varphi \ tan\delta_0 + sinh_0 : cos\varphi : cos\delta_0$
$t_0$ = Sun's Time Angle
$\varphi$ = Latitude of place
$\delta_0$ = Sun's Declination
$h_0$ = Sun's Height at the Start of Prayer Time

g. Ikhtiyat or interpreted as "safety", namely a safety measure in the intial calculation of prayer times by adding or subtracting1 to 2 minutes of time from the actual calculation result. Therefore, the time of Dhuhr is the middle time when the sun is on the meridian (Meridian pass) formulated by $MP = 12 - e$

The benefits of Ethnomathematics in the Adhan Schedule for the Five Daily Prayers Related to Trigonometry

1. Demonstrates the connection between worship and sciece
   Ethnomathematics in determining prayer schedules teaches that worship in islam is inseparable from science, including mathematics. Trigonometric functions are used to calculate the position of the sun, which forms the basis for prayer times, for example:
   Isha : $Dhuhr\ time + \frac{t}{15}$
   Subuh : $12° - e - \frac{t}{15} + KWD + i$
   Dhuhr : $12° - e + KWD + i$
   Asr : $12° - e + \frac{t}{15} + KWD + i$
   Maghrib : $Dhuhr\ time + \frac{t}{15}$
2. Facilitating contextual understanding of trigonometric concepts
   Through prayer schedules, students and the public can learn the following concepts:
   a. The angles of solar elevation and depreciation.
   b. Differencess in prayer times in various regions are due to differences in latitude and longitude.
3. Preserving Local Wisdom in Calculation Systems
   Before digital clocks and prayer apps existed, people used:
   a. The shadow of a stick or an upright object (such as a pole or wooden stick) to determine the times for Dhuhr and Asr.
   b. Observing the color of the sky and the appearance of dawn light for Subuh and Isha

   This method indirectly relies on the concepts of angle measurement and length comparisons, which are closely related to trigonometry. Ethnomathematics helps preserve these traditional methods as part of the scientific culturalheritage of muslims.

4. Increasing Awareness of the Surrounding Environment
   By understanding that prayer times are determined by the position of the sun and shadows, people are encouraged to:
   a. Be more aware
   b. Observe changes in time based on natural phenomena.
   c. Not only rely on clocks or apps, but also practice natural time awareness, as previous generations did.

The five daily prayers are a fundamental obligation in Islamic teachings, and their implementation relies heavily on punctuality. However, have we ever realized that behind the determination of prayer times lies an element of science, particularly mathematics, in everyday community practice. Local traditions passed down through generations also hold rich mathematical values. To delve deeper into this, we interviewed a religious leader in the Balung District community.

He explained that the basic principle of prayer times is determined by the position of the sun. Subuh begins at dawn (the white light on the eastern horizon), Dhuhr when the sun passes its highest point in the sky, Asr when an object's shadow exceeds its length, Maghrib at sunset, and Isha when the sky is completely dark. This demonstrates consistency with research (Solikin, 2020), which explains that the determination of prayer times in islam is based on the movement and position of the sun in the sky. Subuh begins when the true dawn appears on the eastern horizon, Dhuhr when the sun begins to decline from its culmination point, Asr when an object's shadow exceeds its length, Msghrib is marked by sunset, and Isha begins when the red glow in the western sky has disappeared and night has truly fallen.

According to the source, in ancient times, people used natural signs such as changes in the position of the sun, the shadow of a tree or stick, changes in the color of the sky, and even the sounds of certain birds or animals that appear at certain times. In some villages, even the tradition of beating a drum or wooden gong to signal the start of prayer time remains. People studied and adapted to their natural surroundings, creating observation systems that were considered accurate enough for religious purposes. This demonstrates that local communities have implemented that local communities have implemented a from of ethnomathematics, the use of mathematics that emerges from local culture and practices.

Detrmining prayer times in islam is a concrete manifestation of the integration of religious values and science. In this regard, ethnomathematics serves as a bridge connecting a society's religious culture with the mathematical principles used in everyday life. Ethnomathematics itself is the study of how a cultural community understands and applies mathematical concepts based on its experiences, traditions, and environment. One application of ethnomathematics in the lives of Muslims is in the system of determining prayer times.

The five daily prayers of Subuh, Dhuhr, Asr, Maghrib, and Isha are determining based on the position of the sun relative to the horizon, requiring a thorough understanding of direction, angle, and time. Since ancient times, muslims have observed the movement of the sun to determine prayer times (Arfani, 2021). As science advances, these observations are reinforced with mathematical calculations using trigonometric and astronomical concept, such as the sun's elevation angle, declination, and time differences based on geographical location. For example, the times of Subuh and Isha are determined when the sun is approximately 18° below the horizon, which requires angular calculations using trigonometric functions. The time of Dhuhr begins when the sun slips from its highest point in the sky, namely at culmination, which can be calculated based on a sundial and local time corrections. Asr is calculated based on the ratio of the lenght of an object's shadow to the lenght of the object, and Maghrib begins when the sun completely sets below the horizon, exactly when its elevation angle is approximately $-0.833°$.

The practice of determining prayer times demonstrates that muslims have long practiced froms of mathematics within their cultural and religious contexts. This demonstrates that ethnomathematics is not merely a theoretical study but also an integral part of the religious life of the community (Teguh, 2016). Prayer schedules not only reflect punctuality in worship but also reflect local wisdom and the utilization of knowledge passed down through generations.

Thus, prayer scheduling is a concrete example of the application of ethnomathematics in islamic society. It demonstrates how mathematical concepts exist not only in the

classroom or laboratory but also ingrained in daily spiritual activities. This also reinforces the view that in islam, knowledge and faith are not contradictory, but rather complement and enrich each other.

When asked if he was aware that calculating prayer times today uses mathematics, particularly trigonometry, he confirmed it. This is supported by research (Aulia, 2023), which explains that trigonometry is a branch of mathematics that studies the relationship between angles and side lengths in triangles. Trigonometry is often used in hisab calculations, such as determining the start of prayer times, determining the direction of the qibla, determining sunrise and sunset times, and determining the start of the hijri month. Trigonometric hisab is a calculation method that utilizes trigonometric principles. In modern practice, determining prayer times uses a formula for calculations the position of the sun, which is related to geographic location, the angle of the sun's altitude, and the earth's rotation. All of these calculations are performed using computers and astronomy, but remain fundamentally based on islamic principles.

Trigonometry itself plays a crucial role in determining prayer times. For example,to calculate the time for dawn prayers (Subuh), experts calculate when the sun is approximately 18° below the eastern horizon. This involves the concepts of angles, horizon lines, and latitude-all basic trigonometric concepts. Similarly, the time for Dhuhr (noon prayer) is calculated when the sun is directly overhead, or Asr (afternoon prayer) is related to the length of an object's shadow.

Interestingly, although these calculations are complex, ancient people essentially applied similar logic in simple ways. They may not have called it "trigonometry", but when they looked at the length of a shadow or the position of the sun, they were indirectly applying principles now recognized in mathematics. The speaker also emphasized that islam does not reject knowledge but rather encourages its followers to learn. In this regard, the use of mathematics and astronomy not only helps with the accuracy of worship but also demonstrates that religion and science can coexist. The use of science actually strengthens the value of worship, making it more accurate and orderly. With this understanding, we can see that trigonometry is not just an abstract subject in math class but also plays a role in everyday activities, including worship. And more than that, we learn that local culture holds invaluable knowledge, which can serve as a bridge between modern education and the values of community life.

## CONCLUSION

Determining the schedule for the five daily prayers is not only based on religious principles but also involves mathematical and astronomicalprinciples, particularly trigonometry. By calculating the angle of the sun's position and the shadow cast by objects, Muslims can determine prayer times precisely. An ethnomathematics approach, which links mathematics with local culture, helps explain how communities traditionally understand and apply these concepts. This demonstrates how science and religion complement each other in daily life, particularly in the practice of worship.

## ACKNOWLEDGMENTS

The author would like to express his gratitude to the various parties who have assisted in the preparation of this research journal, including:

1. His beloved parents, who have always provided endless support, motivation, and encouragement.
2. Syairul Asyiqin, my husband, who has always encouraged me to never give up.
3. Ms. Lutfiyah, M.Pd., my supervisor 1, for her time, guidance, and mentorship during the preparation of this article.
4. Ms. Indah Rahayu Panglipur, M.Si., my supervisor 2, for her guidance and direction throughout the preparation of this article.

5. My best friend, Rikza Amalia, who has provided constant support and motivation throughout the preparation of this article.

**REFERENCES**

Amirudin, & Asikin, Z. (n.d.). *Pengantar Metode Penelitain Hukum* (2004th ed.). Raja Grafindo Persada.

Arfani, L. S. (2021). *IMPLEMENTASI MAKNA IKHTILAFUL ALILI WAN NAHAR DALAM PENENTUAN AWAL WAKTU SHOLAT PERSPEKTIF FIQIH DAN ASTRONOMI*.

Aulia, S. W. N. (2023). *Penerapan trigonometri bola dalam penentuan awal waktu salat di jalur pendakian gunung prau*.

Gagandhi, R. (2016). ETNOMATEMATIKA DALAM PRAKTIK PERHITUNGAN WAKTU ADZAN. *Jurnal Pendidikan Matematika*, 112–118.

Hardiarti, S. (2017). Etnomatematika: Aplikasi Bangun Datar Segiempat Pada Candi Muaro Jambi. *Aksioma*, *8*(2), 99. https://doi.org/10.26877/aks.v8i2.1707

Hasan, M., Hasibuan, S., Rodliyah, I., Thalhah, S. Z., Ratnaningsih, P. W., & E, A. A. M. S. (2022). Media penelitian kualitatif. In *Jurnal EQUILIBRIUM* (Vol. 5, Issue January). http://belajarpsikologi.com/metode-penelitian-kualitatif/

Lutfiyah, Anditha, D., & Nurfarida, E. (2023). Eksplorasi Etnomatematika pada Tradisi Masyarakat Jawa "Jenang Sengkolo" di Jember. *Gammath : Jurnal Ilmiah Program Studi Pendidikan Matematika*, *8*(1), 30–38. https://doi.org/10.32528/gammath.v8i1.270

Maimun M. (2013). ASTRONOMI DAN PENENTUAN WAKTU SHOLAT DALAM PERSPEKTIF ISLAM. *Jurnal Astromi Indonesia*, 45–58.

Moh Khoirus Solihin, Lutfiyah, D. A. C. S. (2025). Etnomatematika Pada Zakat Mal Pertanian Di Desa Gumuksari Kalisat Jember. *Jurnal Pendidikan Dan Riset Matematika*, *7*(2), 216–228. https://doi.org/10.33503/prismatika.v7i2.1904

Nasution H. (2017). *PENDIDIKAN MATEMATIKA BERBASIS ETNOMATEMATIKA*.

Rahayu Sandra Devi, Indah Rahayu Panglipur, N. H. (2024). Eksplorasi Etnomatematika Pada Budaya Pesantren Terhadap Bentuk Geometri Desain Auditorium Di Pondok Pesantren Baitul Arqom Balung. *Media Pendidikan Matematika*, *12*(2), 95. https://doi.org/10.33394/mpm.v12i2.12738

Solikin, A. (2020). *TINJAUAN MATEMATIS TERHADAP KETETAPAN JADWAL ADZAN ISYA SEPANJANG TAHUN*. *4*.

SUHARLI, S. P. (2022). *Analisis Jarak Dan Waktu Adzan Diantara Negara-Negara Di Dunia*.

Tandililing, E. (2013). Pengembangan Pembelajaran Matematika Sekolah dengan Pendekatan Etnomatematika Berbasis Budaya Lokal sebagai Upaya untuk Meningkatkan Kualitas Pembelajaran Matematika Sekolah. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika*, *P-25*, 193–202.

Teguh, B. M. (2016). Etno-Matematika: Sebagai Batu Pijakan Untuk Pembelajaran Matematika. In *Prosiding Seminar Nasional Pendidikan Matematika 2016*. http://repository.unesa.ac.id/sysop/files/2021-06-02_Prosiding : Etno Matematika_Mega Teguh Budiarto.pdf