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KAJIAN MATEMATIS PARIWISATA PANTAI JUMIANG DI DESA TANJUNG KECAMATAN PADEMAWU

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Abstrak: Penelitian ini bertujuan untuk mendeskripsikan prinsip etnomatematika dan konsep matematika yang terdapat pada wisata Pantai Jumiang. Peneliti menggunakan penelitian kualitatif dengan pendekatan etnografi. Penelitian ini dilakukan di objek wisata Pantai Jumiang Kecamatan Pademawu Kabupaten Pamekasan. Subjek dalam penelitian ini adalah masyarakat sekitar lokasi Pantai Jumiang dan penelitian langsung yang dilakukan peneliti terkait dengan hal-hal yang ada di Pantai Jumiang, baik struktur lokasi, maupun fasilitas umum yang ada di Pantai Jumiang. Dalam penelitian ini teknik pengumpulan datanya adalah wawancara bebas terstruktur dan observasi untuk menemukan konsep-konsep matematika yang terdapat pada wisata Pantai Jumiang. Penelitian ini dianalisis menggunakan teknik analisis data kualitatif model interaktif, yaitu pengumpulan data, reduksi data, penyajian data, dan penarikan kesimpulan. Berdasarkan hasil penelitian ini ditemukan bahwa konsep matematika yang terdapat pada wisata Pantai Jumiang antara lain garis lengkung, lonjong, segitiga, limas segitiga, persegi panjang, segitiga siku-siku, segitiga siku-siku, segitiga siku-siku, lingkaran, prisma segitiga, limas segi empat, setengah lingkaran, balok, jajar genjang dan sudut. Konsep matematika yang terdapat pada Wisata Pantai Jumiang di atas dapat digunakan untuk mengenalkan matematika melalui wisata lokal. Dengan demikian pembelajaran matematika di kelas akan lebih bermakna karena akrab bagi siswa, sudah dikenal dan terkandung dalam lingkungan budayanya sendiri. Konsep matematika yang abstrak akan menjadi konkrit jika sudah mengetahui konsep matematika pada Wisata Pantai Jumiang.

Katakunci: studi; matematika; Pantai Jumiang.

Abstract: This study aims to describe the ethnomathematical principles and mathematical concepts found in Jumiang Beach tourism. Researchers use qualitative research with an ethnographic approach. This research was conducted at the Jumiang Beach tourism object, Pademawu District, Pamekasan Regency. The subjects in this study were the people around the Jumiang Beach location and direct research conducted by researchers related to things on Jumiang Beach, both the structure of the location, as well as public facilities on Jumiang Beach. In this study, the data collection techniques were structured free interviews and observations to find mathematical concepts found in Jumiang Beach tourism. This study analyzed using interactive model qualitative data analysis techniques, namely data collection, data reduction, data presentation, and draw conclusions. Based on the results of this study, it was found that the mathematical concepts found in Jumiang Beach tourism include curved lines, ovals, triangles, triangular pyramids, rectangles, right-angled triangles, trapezoidal angles, circles, triangular prisms, quadrilateral pyramids, semicircles, beams, parallelograms and angles. The mathematical concepts contained in Jumiang Beach Tourism above can be used to introduce mathematics through local tourism. Thus learning mathematics in the classroom will be more meaningful because it is familiar to students, already known and contained in their own cultural environment. Abstract mathematical concepts will become concrete if they already know the mathematical concepts on Jumiang Beach Tour.

Keywords: study; mathematics; Jumiang Beach



Introduction

Madura is the name of an island to the east of the island of Java which is connected by the Suramadu bridge. Madura Island consists of four districts namely Sumenep, Pamekasan, Sampang, Bangkalan. The island of Madura is inhabited by the Madurese who have a culture with a strong Islamic influence. The Madurese are famous for their tenacious speaking style at work, and have high self-esteem. The history of the land of Madura cannot be separated from the events that occurred in Java, starting from the journey of Arya Wiraraja as the first duke of Madura in the 13th century where it was said that the islands of Madura and Java were previously united. Arya Wiraraja was the first duke to be appointed by King Kertanegara from Singasari's reign. The government is located in Batuputih, Sumenep.

Some of the attractions on Madura Island include the Sumenep Palace Museum, Sumenep Palace, Jami' Sumenep mosque, Kalianget Old Town, Tanean Lanjhang traditional house and the VOC Kalimo'ok fort in Kalianget. Natural attractions are Lombang Beach, Slopeng Beach, Jumiang Beach, Kangean Island, Sapudi Island, Camplong Beach, Bagan Si the fires never go out (Kompasiana, 2016). In this context, the researcher examines the natural charm of one of the regencies on the island of Madura, namely Pamekasan. This remote district on the island of Madura has promising tourism potential. Because of the charm and beauty of nature and its fantastic tourism. Pamekasan has various tourist objects whose aesthetic charm is unquestionable, including: (1) Hill of Love; (2) Bunyato Waterfall; (3) Jumiang Beach; (4) Talang Siring Beach and others (Nanda, 2021).

One of the attractions that is quite popular, especially on the island of

Madura, is Jumiang Beach. This beautiful and beautiful Beach has its own uniqueness that can be developed further. In this context, researchers are interested in studying Jumiang Beach further by relating it to mathematical concepts. Fadil (2021) informed that Jumiang Beach is a tourism asset in Tanjung village which is located in the Pademawu sub-district and is still in the Pamekasan regency area is about 12 km to the southeast of the Pamekasan city center . In addition, Jumiang Beach also has a high value and the topography of the beach is fine and white sand, so it is not surprising that there are so many visitors, especially after the location of Jumiang Beach was renovated in recent years and increasingly beautifies the scenery that is served.

It is narrated in the history book of the Madura chronicle that in general the coast of Tanjung Village is an area full of historical value for the spread of Islam during the royal era in Madura, where at that time the coast, known as Adirasa Beach, was said to be a place of imprisonment for the princes of the king's crown prince in Madura, which until now has been made a religious tourism reserve by the surrounding community . From a socio-religious perspective, the coastal communities of Tanjung village are all Muslim . It is said that this beach was used as a place for the crown prince of the king of Sumenep, "Adirasa" to live with his younger brother, Adipodei. Where these two figures are believed to be the first carriers of Islamic teachings in the coastal area of Madura, one of which is in the Coastal Village of Tanjung, Pademawu District, Pamekasan Regency.

Besides the origins of Jumiang Beach which is quite interesting, there is also a unique myth found on Jumiang Beach, namely if a couple who visits

there are either still dating or already engaged, the relationship will run aground (break up) in the middle of the road. This is in accordance with the results of initial observations that researchers have done by interviewing several communities around Jumiang Beach, namely about the history of Jumiang Beach. Besides having interesting myths and origins, there is a mathematical value that can be studied, especially on Jumiang Beach.

Based on the observations that have been made, there are several facilities and infrastructure on Jumiang Beach whose mathematical values can be studied, such as the gazebo roof which is triangular and circular, rectangular lounge chairs, curved Jumiang coastline and so on. This is in line with previous research on the application of mathematical concepts in Madurese culture found in *taneyan lanjeng* such as straight lines, curved lines, parallel lines, symmetry, angles, rectangles, triangles, circles, parallelograms and the concept of similarity (Hafsi & Hasanah, 2018). Besides that, research has also been carried out on the concept of mathematics based on the surrounding culture in traditional games. The concepts in learning mathematics that appear are distance, time, multiplication, division, addition, subtraction of two-dimensional numbers for the concepts of circumference and area, comparison and measurement (Zayyadi et al., 2018). Dhofir et al. (2019) also found even and odd numbers in traditional games.

The study of mathematical values was developed based on several factors that have similar concepts with mathematics learning materials in general, especially those related to everyday life. D'Ambrosio (1999) explains that the goal of ethnomathematics is to do mathematics in a different way by considering the

development of academic knowledge in different cultural sectors and societies. Therefore, it is important to do a research that examines the natural appearance in the context of this discussion is Jumiang Beach, moreover this can broaden the horizons of the surrounding community and can also be used as a contribution to knowledge that one of the attractions on the island of Madura, especially Jumiang Beach has a mathematical value that important to study more deeply.

Zayyadi (2017) state that the mathematical concept obtained from the socio-cultural environment and embedded from generation to generation is certainly one of the initial capital in studying mathematics so that mathematics can be learned more easily by the community. It's just that the initial knowledge must be assimilated, constructed and developed in the mathematics learning process so that later it will produce complete, embedded and more meaningful mathematical knowledge.

Based on the background of the problem above, the authors are interested in conducting research with the aim of describing any mathematical concepts contained in Jumiang Beach tourism in Tanjung Village.

Research Methodology

In this study, researchers used qualitative research with an ethnographic approach. Moleong (2010) explained that qualitative research intends to develop an understanding of individuals and events by taking into account the relevant context. While the purpose of qualitative research is to understand social phenomena through a holistic picture and increase in-depth understanding. Efforts to describe culture or its aspects are called ethnography (Iskandar, 2009). According to Spradley (1997), ethnography is a culture that studies other

cultures. Ethnography is used to describe, explain and analyze the cultural elements of a society or ethnic group. Ethnography is not a specific method of data collection but is a type of research that is distinguished by its purpose, namely to understand social meanings and human activities in a field or setting and an approach that involves association, close friendship and participation in a background.

The researchers conducted research on Jumiang Beach tourism objects, Pademawu District, Pamekasan Regency. The subjects in this study were the people around the Jumiang Beach location and direct research conducted by researchers related to things on Jumiang Beach, both the structure of the location, as well as public facilities on Jumiang Beach. The research instrument was a human instrument, namely the researcher acts as the main instrument that cannot be replaced/represented to others. The researchers made observations on Jumiang Beach and prepared equipment for activities which later referred to the objectives of research activities. Data collection techniques in this study consisted of collection of library data, namely by searching for various literatures related to Jumiang Beach; and data collection in the field consists of 3 parts, namely: (1) Interview method; (2) Observation method; and (3) Documentation method. Data in this study were analyzed using the interactive model qualitative data analysis technique from Miles and Huberman (in Wulandary et al., 2015), namely: (1) Data collection; (2) Data reduction; (3) Data presentation; (4) Draw conclusions.

In the interview process, the researcher pays attention to the requirements that must be met by the informant in order to obtain an informant who is able to work well together. Some

of the requirements for determining informants are as follows:

1. Know culture hers with good
2. Involvement live
3. Atmosphere known culture
4. Have enough time
5. Non-analytical

The interview technique used is a guided free interview, meaning that the questions asked are not fixed on the interview guidelines and can be deepened or developed according to the situation and field conditions. Interviews in this study were conducted to Jumiang Beach Tourism Managers, local leaders and visitors to Jumiang Beach Tourism in Tanjung Village, Pademawu District, Pamekasan Regency.

When making observations, the criteria that the observer considers include:

1. Have sufficient knowledge of the object to be studied.
2. Understanding the general objectives and specific objectives of the research carried out.
3. Determination of methods and tools used in recording data.
4. Determination of the income category of observed symptoms.
5. Observations and records must be carried out carefully and critically.
6. The recording of each symptom must be carried out separately so as not to affect each other.
7. Possession of knowledge and skills on tools and methods of recording the results of observations.

On the documentation method, the things that will be documented in this research are the facilities or buildings on Jumiang Beach in Tanjung Village, Pademawu District, Pamekasan Regency.

Result and Discussion

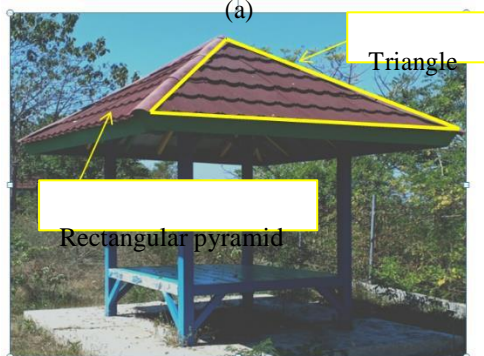
Research findings obtained by researchers during the research process in the form of interviews and recorded

images or photos of observations. From the results of interviews with the subject, it can be concluded that there are many mathematical concepts in Jumiang Beach facilities that have not been realized and known by the public. For example, in gazebo facilities, food stalls, meeting halls and photo spots, we find the concept of getting flat or building spaces such as rectangles, circles, triangles, tubes and others.

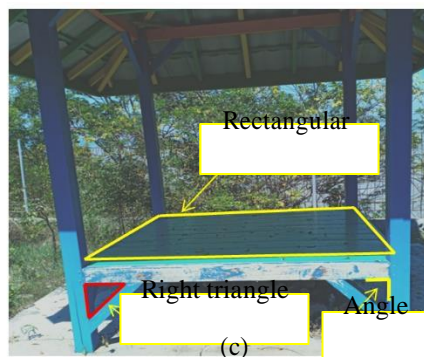
From the observation activities carried out on Jumiang Beach regarding the Mathematical Study of Jumiang Beach Tourism in Tanjung Village, Pademawu District, researchers found some data in the form of photos of the gazebo shape and the shape of the building taken randomly from various places on Jumiang Beach. Some of the data that was successfully obtained by researchers in observation activities, among others:



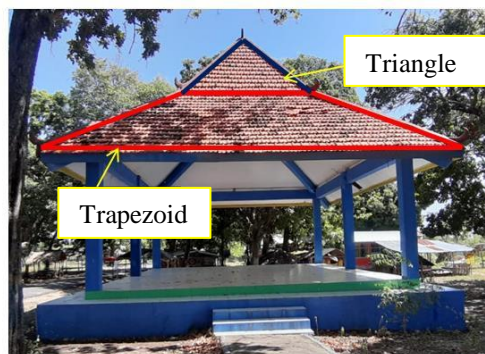
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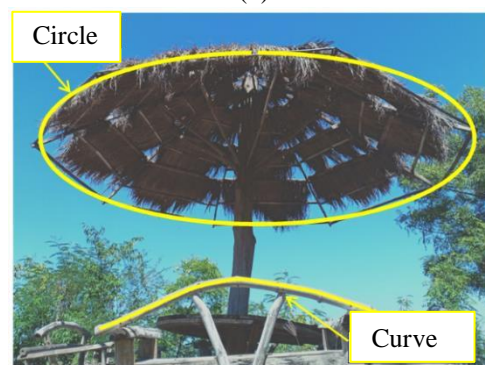
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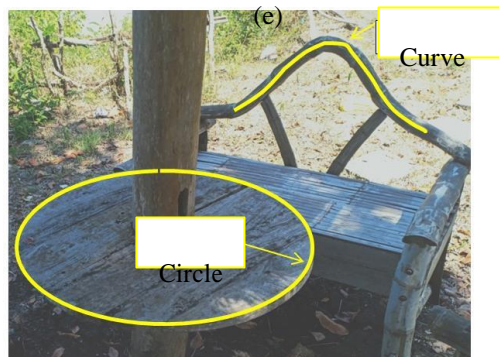
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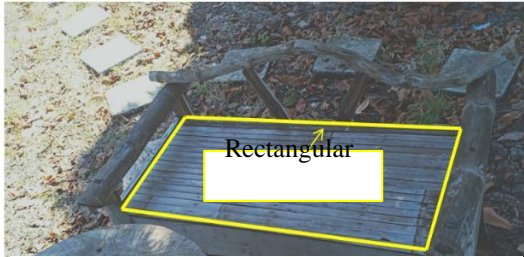
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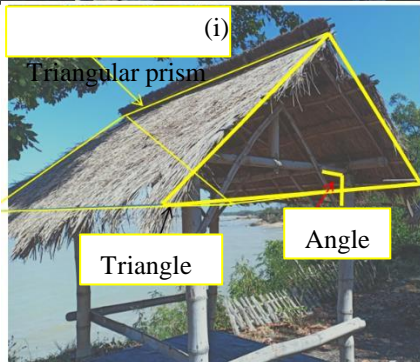
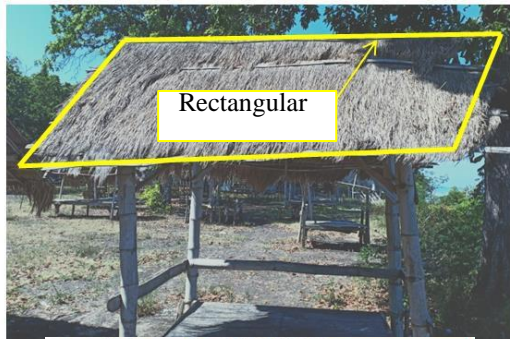
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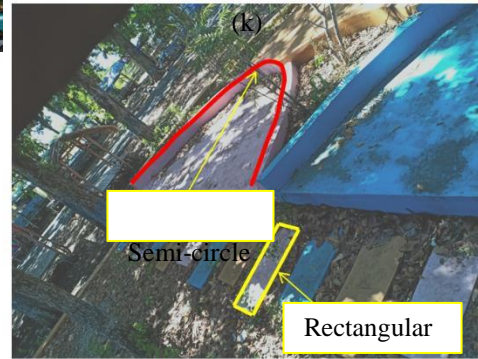
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(j)



(l)



(m)

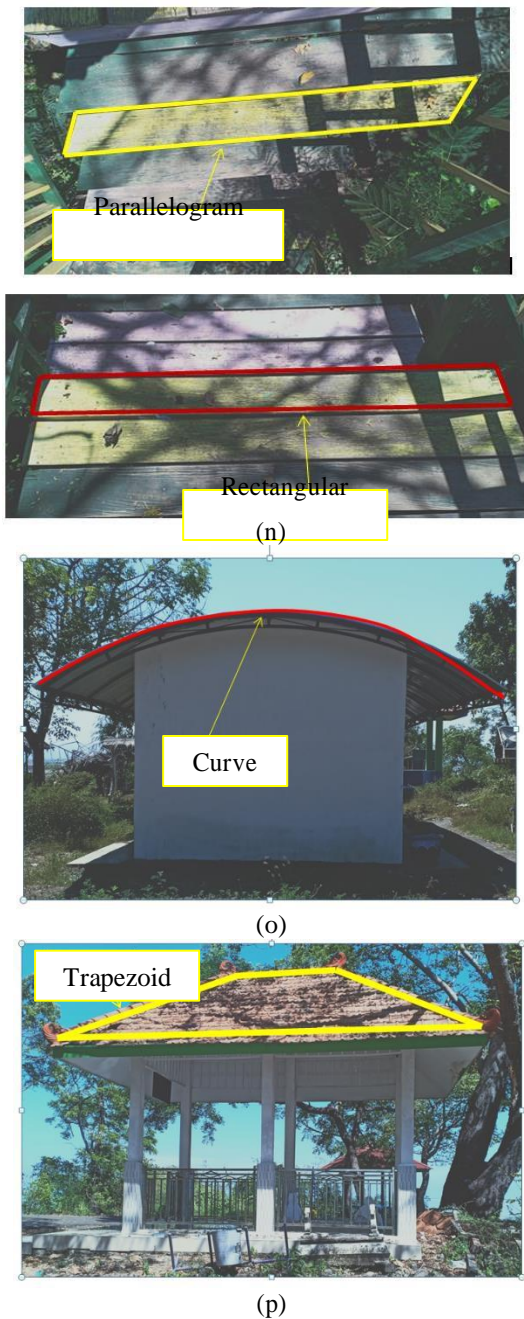


Figure 1. Jumiang Beach tourism Mathematical Study: (a) Icon Name Jumiang Beach (Symmetrical Axes, Curved Lines, and Ovals); (b) Gazebo Roof (Pyramid Square and Triangle); (c) Seat (Rectangle), Seat Legs (Rectangle Triangle-Elbow and Angle); (d) Roof (Combination of Triangle and Trapezoid); (e) Roof (Circle), Seat Back (Curved Line); (f) Table (Circle) Chair Back (Curved Line); (g) Chair (Rectangle); (h) Table (Rectangle); (i) Roof (Rectangle); (j) Roof (Triangular Prism, Angle, Triangle); (k) Both Roofs (Quadrangle Pyramid); (l) Children's Play Area (Semi-Circle and

Rectangle); (m) Under The Stairs (Right Triangle); (n) Stairs (Rectangle and Parallelogram); (o) Roof (Curved); and (p) Side Roof (Trapezoid) and Front Roof (Triangle).

Buildings or facilities on Jumiang Beach in Tanjung Village, Pademawu District, contain concrete mathematical concepts so that they can be used as material to introduce mathematical concepts that are still abstract. Analysis of the images obtained in the study as follows:

- Figure 1(a) is Jumiang Beach name icon. There is an object written J U M I A N G. The letters "U, M and A" are reflections and on the letter "G" forms an oval. In the letters U, M and A are reflections. One form of geometric transformation is reflection or reflection (Edi, 2020). Reflection is a geometric transformation in the form of moving all points on a geometric plane towards a line or mirror with a distance of twice the distance of the points on the geometric plane to the mirror. The symbol for reflection is R. The reflection of the line S is a function of R_s defined at all points of the v plane. If described in Cartesian coordinates, there are four types of reflection, namely the reflection of the point $O(0,0)$, the x-axis, the y-axis, the line $y = x$, and the line $y = -x$. Each type of mirroring has a different transformation matrix that determines the coordinates of the mirrored result.

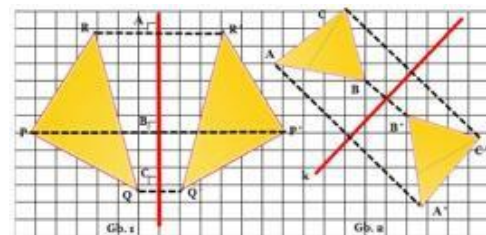


Figure 2. Reflections

Here are some reflection formulas:

- Reflection on the $-x$ axis : $(x,y) \rightarrow (x, -y)$

- b. Reflection on the -y axis : $(x,y) \rightarrow (-x, y)$
- c. Reflection on the line $y = x$: $(x,y) \rightarrow (y,x)$
- d. Reflection on the line $y = x$: $(x,y) \rightarrow (-y, -x)$
- e. Reflection of the line $x = h$: $(x,y) \rightarrow (2h - x, y)$
- f. Reflection on the line $y = k$: $(x,y) \rightarrow (x, 2k - y)$

Next is the oval shape on the letter G. According to the Lonjong (2021), oval is an oval shape, elliptical or oval. This term is not very specific, except in planes, the words oval or oval provide a more precise definition, which can include one or two axes of symmetry. In mathematics, an ellipse is a locus of points where the sum of the distances at any two points is always constant. These two points are called the focus.

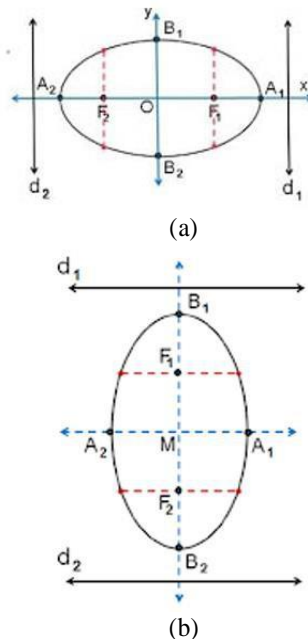


Figure 3. (a) Horizontal Ellipse; and (b) Vertical Ellipse

The general form of horizontal ellipse with center which a $> b$ is $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$. The elements are: The coordinates of the vertex are at $A_1(a, 0)$, $A_2(-a, 0)$, $B_1(0, b)$, and

$B_2(0, -b)$; the length of the major axis = $2a$ and the length of the minor axis = $2b$; the focal point is at $F_1(c, 0)$ and $F_2(-c, 0)$ where $c^2 = a^2 - b^2$.

Eccentricity value: $e = \frac{c}{a}$; the directrix equation is formulated by: $x = \frac{a^2}{c}$ and $x = -\frac{a^2}{c}$; and the length of the latus rectum is: $LR = \frac{2b^2}{a}$.

The general form of vertical ellipse with center which where $a < b$ is $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$. Some of the elements

are: The coordinates of the vertex are at $A_1(a, 0)$, $A_2(-a, 0)$, $B_1(0, b)$, and $B_2(0, -b)$; the length of the major axis = $2b$ and the length of the minor axis = $2a$; the focal point is at $F_1(0, c)$ and $F_2(0, -c)$ where $c^2 = b^2 - a^2$.

The eccentricity values are: $e = \frac{c}{b}$. The directrix equation is formulated

by: $y = \frac{b^2}{c} + q$ and $y = -\frac{b^2}{c} + q$; and the length of the latus rectum is: $LR = \frac{2a^2}{b}$.

2. Figure 1(b) dan 1(k) is one of the buildings and playgrounds located in the Jumiang Beach tourism area which is often used as a resting place for visitors and as a playground for children who are on tourism on the Jumiang Beach. The roof of the Gazebo is in the form of a rectangular pyramid and in the two roofs are in the form of a rectangular pyramid. According to Heryansyah (2020), pyramid is a geometric shape (three-dimensional) which has a base in the form of polygons (multi-faceted: quadrilaterals, triangles, and pentagons). The sides are triangular and have a vertex. The name of the pyramid is determined by its base.

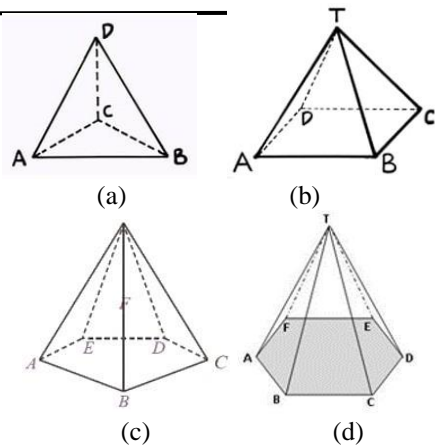


Figure 4. The Types of Pyramid: (a) Triangular Pyramid; (b) Rectangular Pyramid; (c) Pyramid Pentagon; and (d) Pyramid Hexagon

Triangular pyramid has a triangular base. The shape of this triangle varies, there are isosceles triangles, equilateral triangles, right angles, and any. Rectangular pyramid has its properties, the base is rectangular. The shape of the reason can vary, including rectangles, trapezoids, rhombuses, kites, and parallelograms. Pyramid pentagon has base in the form of a pentagon, which can be in the form of a regular pentagon or an arbitrary pentagon. Pyramid hexagon has base hexagonal in shape. The shape of the reason can be a regular hexagon and an arbitrary hexagon.

The formulas for calculating a triangular pyramid are:

- a. The formula for calculating the volume of a triangular pyramid is $V = \frac{1}{3} \times L_{\text{base}} \times t$ or $V = \frac{1}{3} \times (\frac{1}{2} \times a \times s) \times t$.
- b. To calculate the surface area of a triangular pyramid, the formula used is

$$L = L_{\text{base}} + L_{\text{I}} + L_{\text{II}} + L_{\text{III}}$$

Because to calculate the surface area of a triangular pyramid, it is necessary to know the area of triangles 1, 2, and 3, it is also necessary to know the formulas, namely:

$$\text{Area I: } L_{\text{I}} = \frac{1}{2} \times a_1 \times t_1$$

$$\text{Area II: } L_{\text{II}} = \frac{1}{2} \times a_2 \times t_2$$

$$\text{Area III: } L_{\text{III}} = \frac{1}{2} \times a_3 \times t_3$$

3. On the figure 1(g), 1(h), 1(i), 1(l), and 1(n) They are some of the facilities on Jumiang Beach which are like a place to sit or rest for the visitors that contain a rectangular shape. A rectangle is a two-dimensional flat shape formed by two pairs of sides, each of which is the same length and parallel to its partner, has four angles, all of which are right angles (90°) and whose diagonals are the same length and bisect each other same length. Generally the longest side is called the length (p) and the shortest side is called the width (l) (Berpendidikan, 2021).

The foot supports in figure 1(c) and 1(m) are in the form of right triangles, one of the types of triangles based on the type of angle is a right triangle. A right triangle is a triangle where one of the angles is a right angle (angle measure = 90°) (Emma, 2021).

Figure 1(d) is a gazebo roof which is a combination of triangle and trapezoid. A trapezoid is a two-dimensional flat shape formed by four edges, two of which are parallel but not the same length. Trapezoidal dotted is a type of rectangular flat shape that has special characteristics (Berpendidikan, 2021).

There is a parallelogram in the figure 1(n). Parallelogram is a two-dimensional flat shape formed by two pairs of edges, each of which is the same length and parallel to its partner, and has two pairs of angles, each of which is equal to the angle opposite it. Parallelograms also include quadrilateral derivatives that have special characteristics. A parallelogram with four sides of the

same length is called a rhombus (Jajar Genjang, 2021).

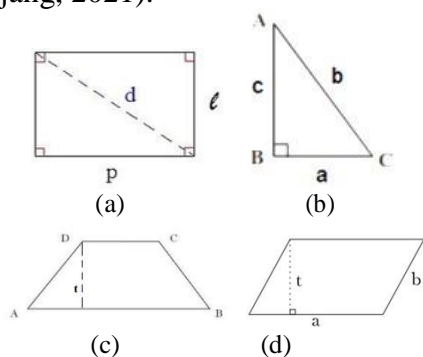
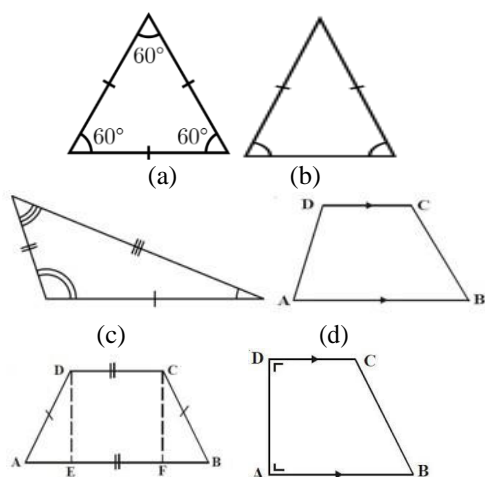


Figure 5. Some Flat Shape Math Concepts Found at Jumiang Beach Facilities: (a) Rectangle; (b) Triangle; (c) Trapezoid; (d) Parallelogram.

The properties of a parallelogram are: Has 2 pairs of equal sides, the height of the parallelogram is obtained from the line that passes through one vertex to the other side, thus forming a right angle on that side, and has 2 pairs of equal angles (obtuse angles and acute angles). Based on the figure above, a called base, b called hypotenuse, and t called height.

Tabel 1. Formula for parallelogram

Name	Formula
Roving (K)	$K = 2 \times (a + b)$
Area (L)	$L = a \times t$
Side of Base (a)	$a = (K : 2) - b$
Oblique Side (b)	$a = (K : 2) - a$
t is known L	$t = L : a$
a is known L	$a = L : t$



(e) Figure 7. The Types of Triangle and Trapezoid: (a) Equilateral Triangle; (b) Isosceles Triangle; (c) Arbitrary Triangle; (d) Arbitrary Trapezoid; (e) Equilateral Trapezoid; (f) Elbow Trapezoid.

An equilateral triangle is a triangle whose three sides are the same length. An isosceles triangle has two sides of the same length. An arbitrary triangle is a triangle whose three sides are different in length. The size of all the angles is also different.

An arbitrary trapezoid is a trapezoid whose four sides are not the same length. This trapezoid has no folding symmetry and no rotational symmetry. Isosceles trapezoid, which is a trapezoid that has a pair of edges that are the same length, in addition to having a pair of parallel edges. This trapezoid has 1 folding symmetry and has no rotational symmetry. Right-angled trapezoid, which is a trapezoid in which two of the four angles are right angles. The parallel ribs are perpendicular to the height of this trapezoid. This trapezoid has no folding symmetry and no rotational symmetry.

On the Gazebo foot support there is also an angle. An angle is an image formed by two rays, also called sides of the angle, sharing the same endpoint, called the vertex/vetex of the angle. The angle formed by two rays lies in the plane containing the rays. Angles are also formed by the intersection of two planes. This is called a dihedral angle. The two wedge curves also define the angle, which is the tangent angle at the point of intersection. For example, the angle a sphere formed by the two great circles on the sphere is equal to the dihedral angle between the planes containing the great circles. Angles are also used to measure an angle or rotation. This measure is the

ratio of the arc length of the circle to its radius. In the case of geometric angles, the arc is at the center of the angle and is bounded by the sides. In the case of rotation, the arc is at the center of rotation and is bounded by another point and its shadow by the rotation.

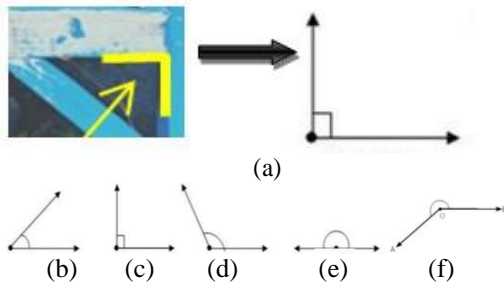


Figure 6. Angle and the types of angles: (a) Angle concept in building; (b) Acute angle; (c) Right angle; (d) Obtuse angle; (e) Straight Angle; and (f) Reflex Angle

A right angle has a measure of exactly 90° . Acute angle an angle whose measure is less than 90° . Obtuse angle is an angle that is greater than 90° . A straight angle is an angle whose measure is 180° . A reflex angle is an angle that measures between 180° and 360° .

- On the figure 1(a), written object the letter "J" forms a curved line. Figure 1(e) and 1(f) are the gazebo roof and a circular table and the back of the seat in a curved line. Research findings on the shape of the roof of the gazebo and seat is that the roof of the gazebo has 2 kinds of shapes at once, namely a circle (the lower side of the gazebo roof and table) and a parabolic curve (the curved side of the gazebo roof and the back of the seat or chair). The following are the properties of a flat circle, including: (1) Only has one side; (2) Has no vertices; (3) Has unlimited folding symmetry; (4) The distance from the center point to any side is always the same. Meanwhile, a curved line is a line that connects 2 points and is not

in a straight line. The parabolic curve is the locus of the points whose distance from a certain point and a certain line is always the same. The point is called the focus (F) and the line is called the directrix (d) (Berpendidikan, 2021).

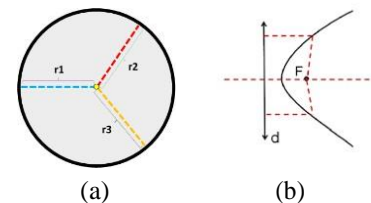


Figure 7. One of the Concepts in Gazebo Roof and a Circular Table: (a) Circle; and (b) Curve

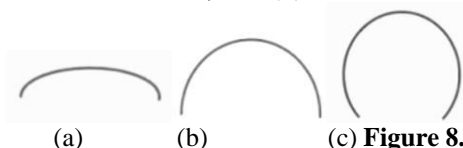


Figure 8. Types of Curved Lines: (a) Arc Curved Line (A Curved Line Whose Arc Length is Less Than Half a Circle); (B) Dome Curve (A Type Of Curved Line Whose Arc Length is Less Than Half a Circle and its Shape Can Be More Prominent or Flattened); (C) Floating Curved Line (A Type of Curved Line Whose Arc Length is more Than Half a Circle, But Not a Full Circle)

A curved line is a type of curved line whose arc length is less than half a circle, dome curvature is a type of curved line whose arc length is less than half a circle. The shape can be more prominent or flattened, and floating curved line is a type of curved line whose arc length is more than half a circle, but not completely to form a full circle.

Figure 1(l) also have semi-circle. In mathematics, a semicircle is locus of one- dimensional points that form a semi- circle. A full semicircle arc always measures 180° (equivalently, radians, or half-turn). It has only one folding symmetry (reflection symmetry). In non-technical usage, the term "semicircle" is sometimes used to refer to a half

disk, which is a two-dimensional geometric shape that also includes a diameter segment from one end of the arc to the other as well as all interior points (Setengah lingkaran, 2022). A semi-circle is a two dimensional space image that is circular in shape but only in the form of a half circle, in the sense that the shape of this circle is only part of it. In addition, there are also circular shapes in other forms, for example: 1/4 circle, 1/3 circle and others.

- The roof in figure 1(j) is in the form of a triangular prism. These spatial figures have parallel and congruent base and top planes. The other side is an upright side in the form of a parallelogram or rectangle that is either perpendicular or not perpendicular to the plane of the base and the top plane. Such a shape is called a prism.

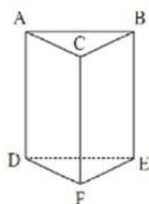


Figure 9. Prism

Based on figure 9, the points A, B, C, D, E and F are the vertices of the prism; ABC is the top plane of the prism; DEF is the base plane of the prism; the planes ACFD, BCFE and ABED are the perpendicular sides of the prism; it has 9 edges AD, BE, AB, AC, BC, DE, EF, DF, CF; and there are 6 side diagonals namely AF, CD, BF, CE, AE, BD.

Table 2. Mathematical Concepts Found in Buildings or Facilities at Jumiang Beach Tourism in Tanjung Village, Pademawu District Along With the Figure Number.

No.	Discovered Mathematical Concepts	Image Code
1	Curve	Figure 1(a), 1(e) and 1(f)
2	Ellipse	Figure 1(a)
3	Triangle	Figure 1(c) and 1(d)
4	Quadrilateral Pyramid	Figure 1(b) and 1(k)
5	Rectangular	Figures 1(c), 1(g), 1(h), 1(i) and 1(n)
6	Right triangle	Figure 1(c) and 1(m)
7	Corner	Figure 1(c)
8	Trapezoid	Figure 1(d)
9	Circle	Figure 1(e) and 1(f)
10	Curve Reflection	Figure 1(a) and 1(o)
10	Triangular Prism	Figure 1(a)
11	Semi-circle	Figure 1(j)
12	Parallelogram	Figure 1(l)
13		Figure 1(n)

Conclusion

Based on the results of this study, it was concluded that the mathematical concepts contained in Jumiang Beach Tourism include: curved lines, ovals, triangles, triangular pyramids, rectangles, right triangles-elbows, trapezoidal angles, circles, triangular prisms, square pyramids four, semicircle, beam and parallelogram, angle. Concepts The mathematics contained in Jumiang Beach Tourism above can be used to introduce mathematics through local tourism. Thus learning math in class will be more meaningful because this is no stranger to students, already known and contained in the environment their own culture. Abstract mathematical concepts will be concrete when they already know mathematical concepts on the Jumiang Beach Tour.

Based on research on ethnomathematical studies on Jumiang Beach Tourism, the following suggestions are obtained: For teachers or prospective mathematics teachers who want to use this thesis as a reference

material, it is recommended to actualize mathematical concepts (ethnomathematics) in Jumiang beach tourism into the mathematics learning process with the aim that students are easier to understand and understand mathematical concepts because the concept it emerged from a tourist place that was familiar to them; to the next researcher, there should be further research that examines the how the mathematical values contained in the facilities and the Jumiang beach area can be the development of a model device local tourism based learning on Jumiang beach, Madura; and for readers, if you want to do research with the same problem, this thesis can be used as a reference journal. It is also intended that research based on local tourism that can be associated with learning can develop properly.

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