e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
Volume:04/Issue:05/May-2022 Impact Factor- 6.752 www.irjmets.com

GEOMETRY AND ITS USES IN DAY TO DAY LIFE

Naorem Akash Singh*1, Dr. Naveen Kumar
*1,2Department Of Mathematics, Chandigarh University, India.

ABSTRACT

From ancient times, 'geometry' has been a big part in human civilization. The appearance of the wheel is additionally a study by early men with tools to search out one thing that may cut back friction. It had been developed as a subject by a Greek mathematician Euclid of Alexandria, 'Father of Geometry'. Taken from 2 words, 'geo' means the earth and the 'metron' means balance. In this paper, we will learn about the various uses of geometry in everyday life. If we look closely and carefully, we will notice the use of geometry in everyday life. We will study interesting facts about the application of this exceptional mathematics lesson and its application in several domains. Many students feel that Geometry is a challenging subject, while others enjoy even practicing this subject. However, there are a few reasons to teach Geometry to students from an early age and the most important reason for its use in everyday life. Therefore, students need to understand this concept better.

I. INTRODUCTION

GEOMETRY:

An important branch of mathematics, 'geometry' is the domain which features and features of shapes, diagrams, sizes, positions, angles, etc. are read and explained in order to understand scholars and students.

It is a very important part in mathematics which has been employed in alternative studies. The existence of geometry can be traced back to 1000s of years ago throughout the Egyptian Civilization. It's existence and uses is also demonstrated in the Indus Valley Civilization. They were known as the primary to find and use features of the 'obtuse triangle'. Beginning in the sixth century BCE, geometric concepts were refined by the Greeks.

The natives of this civilization researched and discovered that there are various types of shapes found in nature. They additionally developed some and located the 4-dimensional pyramid was very stable. The Pyramid was completed in decades but stood still in the middle of the desert for 1000s of years. When we look closely, we will find excellent examples of 'geometry' in our day to day life.

HOW GEOMETRY EVOLVE?

Back to the time of first men, the presence of geometry can be traced. At the time, the subject was non-existent however the uses of geometric ideas can be attested to by ruins, fossils, and objects of art. Wheels were developed by using the idea of circular object that minimizes friction. This is one of the best ways to apply geometry in our daily lives. Even today, we find it easier to drive cars with a round wheel. This is how geometry emerged and was recognized as a theme during Greek civilization.

During the Greek civilization the main expansion of geometrical mathematics occurred. Well-known philosophers and mathematicians such as Euclid, Archimedes, Thales, and Pythagoras described various aspects of geometry and developed a system of new inventions. The concepts and ideas we study are related to the use of geometry in everyday life and also the foundation were developed over many years through these civilizations.

The Thales attested to several mathematical relationships and functions and formed the basis of geometry. And Pythagoras established the very fact that the total sum of all angles of a triangle would always be 180°. The title of the theory that describes the link between the hypotenuse, the perpendicular, and the base of the right-hand triangle is named after him.

In third century BCE, 'the father of geometry' Euclid provided the basis for geometry that was the basis for a

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series of lectures. In his book, 'The Elements of Geometry' reveals how he arranged the unique foundation for the various geometric elements used to date. His two-point concepts can be combined to provide a straight line and also the quality of all the right angles remains used.

BENEFITS OF GEOMETRY IN DAY TO DAY LIFE OF STUDENTS:

Geometry has several daily effects so it is necessary to read to students. Here are a few ways to highlight its **value:**

→ Learning geometry gives students a lot of basic skills and helps them to develop their logical thinking skills, critical thinking, analytical thinking, and problem-solving skills. Thus, contributing to their complete development.

→ Geometry as a concept allows learners to link classroom objects in the classroom to real-world situations in relation to their approach and the environment in which they develop their realistic thinking.

→ Also, understanding the interpersonal relationships is important in the area of problem solving and critical thinking skills (HOTS) Geometry that allows learners to learn.

→ It finds great applications in the real world as it helps us decide which materials to use, which design to make, and plays a key role in the construction process itself. Thus, it is very useful for students.

From birth, humans are fascinated by designs, colors and variety. The foregoing can be bolstered by the actual fact that despite the fact that in the marketplace, people are attracted to fabrics with attractive patterns, eye-catching cover books, one-dimensional sunglasses, attractive patterned jewelry, and cups of tea. in good forms, and what-not! Geometry can be called as "universal". In addition, during the early stages of development of children the geometrical shapes and sizes of different toys play a vital role in their cognitive development. Now let's look into some basic examples of geometry that play a vital role in people's day to day life.

GEOMETRY IN NATURE:

The most necessary geometric pattern in existence is made up of the environment around us. If we look closely, we can find geometric shapes and totally different patterns of flowers, leaves, roots, stems, barks and many more. The leaves of the trees are of various sizes, shapes, and proportions. Different vegetables and fruits have different geometric shapes, we can look at an orange, a circle and after peeling it, we may notice how each piece forms a complete sphere.

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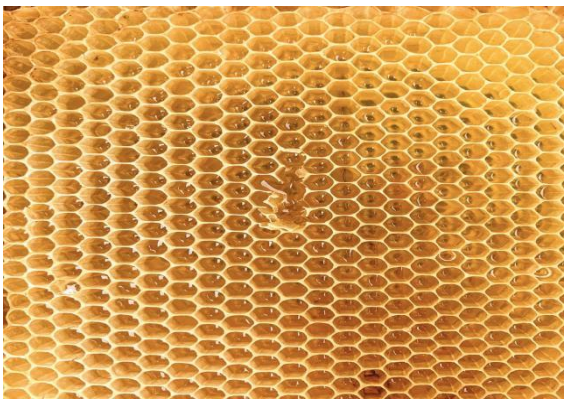
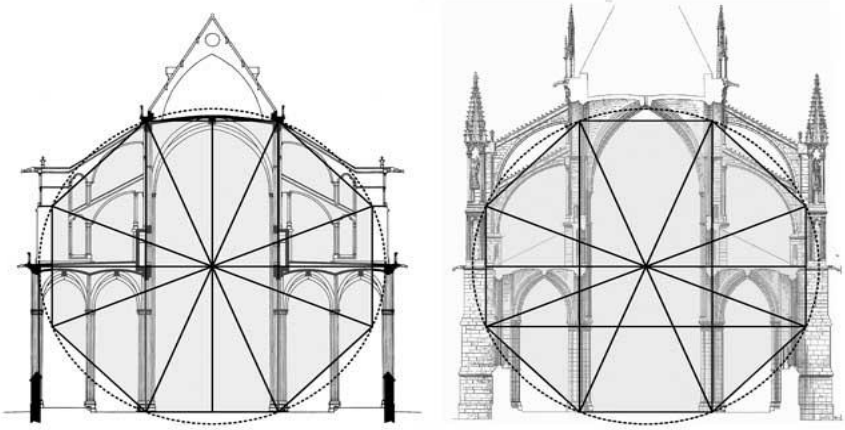


If you look carefully at the honeycomb, we can see hexagonal patterns are arranged in sequence. Also, exploring the ice cap under a microscope will make the explorer a visitor to beautiful geometric patterns.

GEOMETRY IN TECHNOLOGY:

Technology is the most commonly use example of geometry in day to day life. It may be computers or robots or video games, almost all their basic concepts use geometry. Computer programmers can work daily as a result of geometric concepts are invariably present. Because of geometric calculations help to create complex video game images, its visual world is created . Raycasting, a shooting process, uses a 2-dimentional (2D) map to promote the 3-dimensional (3D) world in video games. Also raycasting helps to extend process as straight lines are calculated on screen.

GEOMETRY IN ARCHITECTURE:



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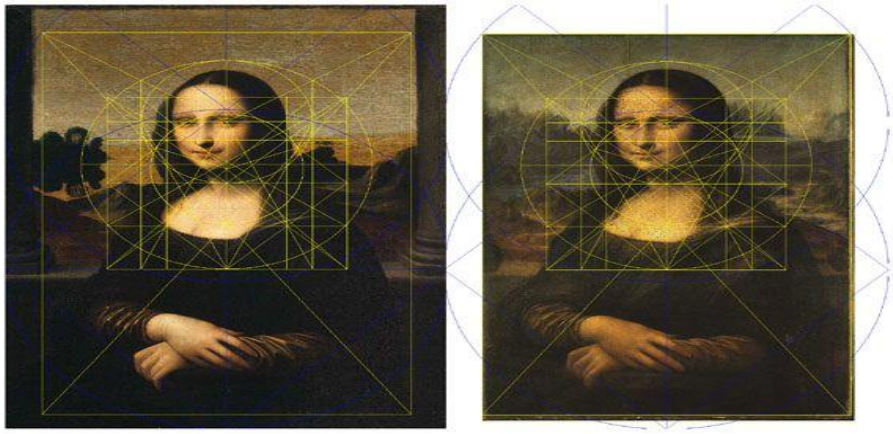
There is an important relationship between geometry and construction of every buildings and monuments. Before building geometry, mathematics and architectural forms help to formulate a building plan. Measurement theories and symmetries form the embedded features of every types of architectural designs and styles. Pythagoras' "Principles of Compatibility" and geometry was used in architectural styles and designs of the 6th century BC. Not solely did the geometrical foundations of geometry help to increase the beauty, harmony, and religious value of large buildings but also helped to mitigate the various dangers posed by high winds.

GEOMETRY IN ART:

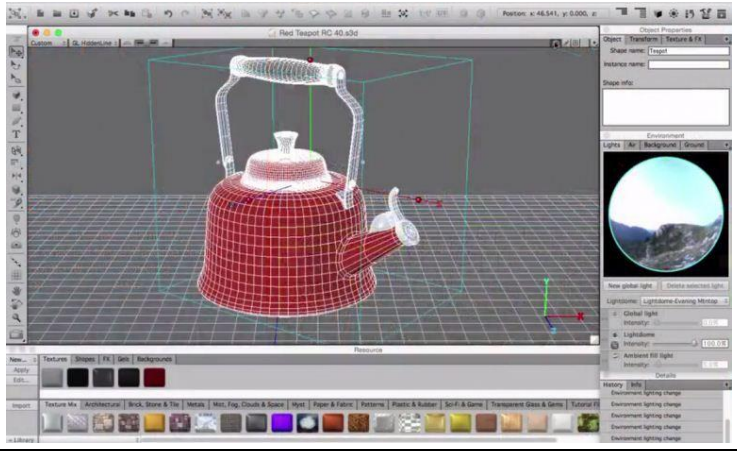


What does art involve? Art incorporates mathematical formations and scenarios, basic 2-D and 3-D insights, information regarding spatial ideas, and also the contribution of measurements and patterns. From the foregoing, it,s clear that there's a close connection between geometry and art. Formation of shape is the result of use of the geometric forms such as square, triangle, circle, octagon or, mandala. In addition, the content of sculptures or drawings is strongly influenced by the selection and composition of frames. Also the practical geometric principles form the basis of the concept, that is used in many drawings.

GEOMETRY IN SPORTS:

Sports often do not miss a single opportunity to apply geometric concepts. Stadium structures and stadiums take into account geometric shapes. Athletes also use geometry. Basketball, hockey, soccer and also football fields are rectangle in shape. Corner spots, poles, D-section, center circle and arcs are marked on the field. Not only these, the stadiums of many other sports such as basketball and volleyball consider geometric features because these areas have oval and circular arcs that are clearly marked. And about the track tracks, semicircular shapes are mostly seen. Angles too play an important role in prediction of players' movements, improving their performance, and getting points.

GEOMETRY IN CAD (COMPUTER AIDED DESIGN):



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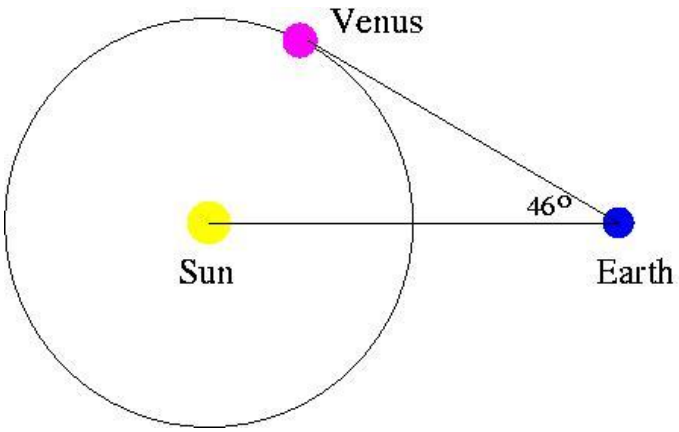
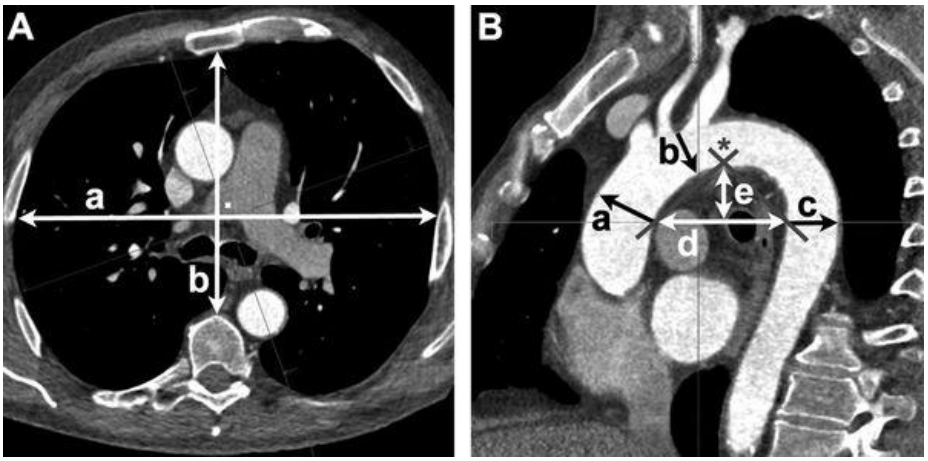
Geometry, one among the concepts and ideas of mathematics, includes shapes, lines, angles and curves. Computer software helps to provide visual pictures on the screen before any design is done. Software, CAD, presents the design plan. In addition, it is also helpful in imitating architectural forms that allow for a much better understanding about the finished product. Various industrial processes that allow for the design of images widely used various geometrical principles.

GEOMETRY IN MAPPING:



Geometry helps to calculate physical distances accurately. It is used in the sector of astronomy and physics to map the distances between planets and stars or between different planets. Geometry also helps to determine the connection between the movements of various bodies in the celestial sphere. In addition to this, it also plays a key role in exploration and navigation. In case of exploration, the measurement of the earth's surface is the result of accurate precision. In addition, in navigation, ships, aircraft, and airplanes use angles and rely on other mathematical concepts to perform basic tasks.

GEOMETRY IN MEDICINE:



Techniques such as X-rays, MRIs, ultrasounds and nuclear imaging need reconstruction of body parts, tumors, and bones, based solely on geometry. Also physiotherapy uses geometry. Its features and properties help define images a in digital grids. Geometric concepts not only assist in visualizing, transforming, separating images, fixing and representing an object additionally play a crucial role in increasing efficiency, reliability, and stability. The bisection angle techniques and other similar techniques are important in radiology.

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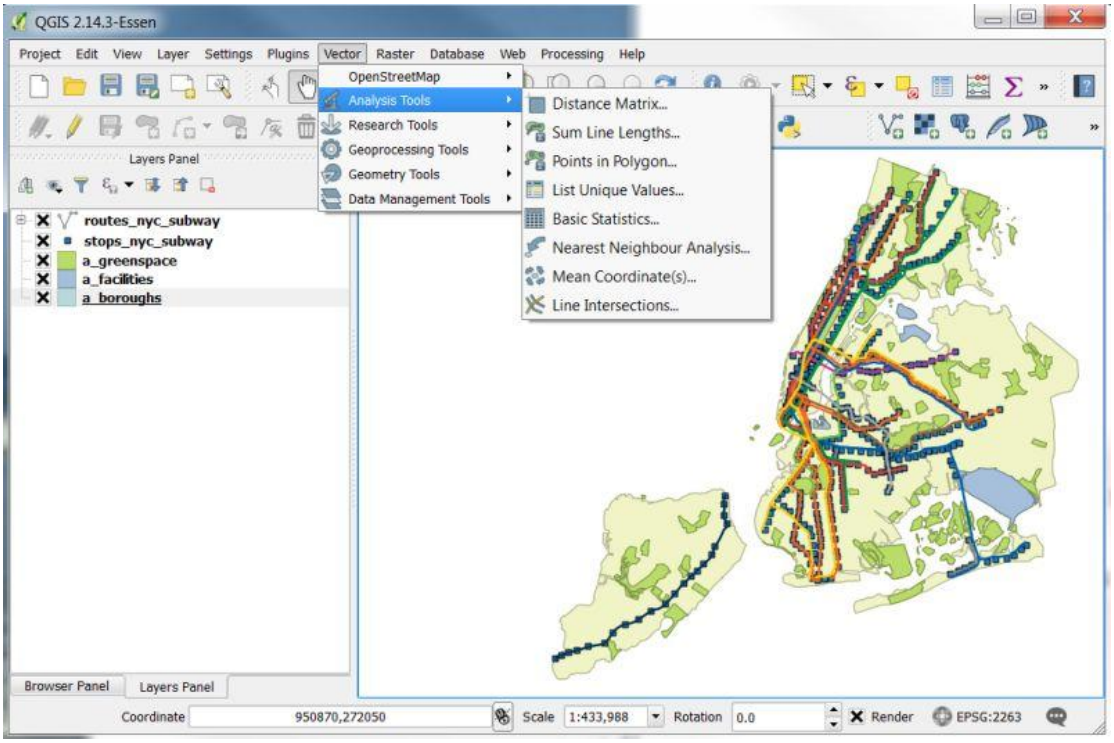
GEOMETRY IN GEOGHRAPHIC INFORMATION SYSTEM:



GPS satellites use principles of geometry to calculate the location of satellites. The importance of coordinate geometry in GPS (Global Positioning System) provides accurate information about time and location. GPS use coordinates to find the distance of any 2 locations. Coordinate geometry helps GPS track travel accidents and perform rescue operations. Also coordinate geometry helps improve flight safety to predict weather, environmental protection and earthquake monitoring. In addition, GPS are equipped in different aspects in military operations.

II. CONCLUSION

Geometry is an important part of human life even in the unknown stages of our daily lives. It helps us in many ways, including the following:

• Learning geometry provides us information and develops concepts related to shapes, volumes, surfaces, angles, lines, etc. These ideas can be applied to various aspects of life.

• Studying geometry provides students with a wide range of basic skills and helps to build the necessary skills in life.

• At a basic level, geometric studies are important as they form the basis for the most advanced mathematical learning to come.

• Geometry introduces a variety of important formulas that are used across a wide range of scientific and mathematical concepts.

• It is also part of the basic knowledge of specific professions in the field of STEM (engineering, science and mathematical engineering).

Geometry is used by everyone knowingly or unknowingly in their normal life.

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