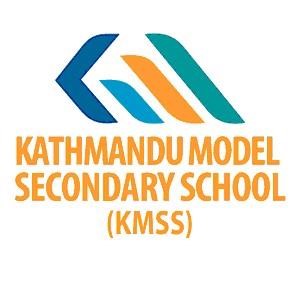
**Polar Form of Complex Number and Its Importance**



**A project submitted to:**

**The Department of Mathematics**

**Kathmandu Model Secondary School**

**Bagbazar, Kathmandu**



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**Acknowledgment**

I am grateful in my humbleness and would like to acknowledge my regards to everyone who helped me put these ideas together, well above all the simplicity and turning into something as strong as concrete. I would like to express my gratitude to the Head of Department (Mathematics), Supervisor: **Mr. Subash Chandra Jha**, as well as the college administration for providing me with this amazing opportunity to do this wonderful project on the topic, “**Polar Form of Complex Number And Its Importance**”, which encouraged me to do heaps of research where I got to learn many new things. Any attempt at any level could not have been satisfactorily completed without the support of my parents and siblings for their undivided support and interest, which inspired me and encouraged me to go on my way.

I would be unable to complete my project. At the end, I would also like to thank my friends for their support and encouragement to continue doing the work.

**Thank you!**

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# Introduction

### What actually are Numbers?

A number is an arithmetic value used for representing the quantity and used in making calculations. In the late centuries, Numbers are used to count the object, label it and measure something. Then after many centuries, Numbers become essential part of the life.

## History of Number

The origins of numbers are cloaked in mystery. But, it’s safe to say that as civilization advanced numbers advanced with it; and it is equally safe to say that civilization could not have advanced without it.

Common intuition, and recently discovered evidence, indicates that numbers and counting began with the number one. (Even though in the beginning, they likely didn’t have a name for it.) The first solid evidence of the existence of the number one, and that someone was using it to count, appears about 20,000 years ago. It was just a unified series of unified lines cut into a bone. It’s called the Ishango Bone.

The [Ishango Bone](http://en.wikipedia.org/wiki/Ishango_bone) (it’s a fibula of a baboon) was found in the Congo region of Africa in 1960. The lines cut into the bone are too uniform to be accidental. Archaeologists believe the lines were tally marks to keep track of something, but what that was isn’t clear.

But numbers, and counting, didn’t truly come into being until the rise of cities. Indeed numbers and counting weren’t really needed until then. Numbers, and counting, began about 4,000 BC in [Sumeria,](http://en.wikipedia.org/wiki/Sumer) one of the earliest civilizations. With so many people, livestock, crops and artisan goods located in the same place, cities needed a way to organize and keep track of it all, as it was used up, added to or traded.

#### Methodology

The methodology used for the project was qualitative content analysis where the materials for the project were search through and through throughout the web and were collected and studied. Various research studies and articles were visited and looked through. Grade 11th “Foundation of

Mathematics” book was also used as a means of research for the project. The definitions, figures and concepts were all provided from different sources and were of great help.

Many of the search materials are linked at the end of the project at the bibliography section. As various sources and concepts were followed there is a high chance that the concepts and ideas may clash.

### CONCLUSION

Degree and radian are vital measuring units. Because of the properties of degrees and radians, they are used widely. A degree can be defined as the angle made by one part of 360 equally divided parts of a circle at the centre with a radius of r, and a radian can be defined as the angle made at the centre of the circle by an arc of length equivalent to its radius.

The relationship between radian and degree can be explained by the equation π radian = 180°. One degree is equivalent to 0.017453 radians, and 1 radian is equivalent to 57.2958°. Both degree and radian can be converted easily. To convert degree into radian, multiply the value of degree by π / 180° and to convert radian into the degree, multiply the value of degree by 180°/ π.

## Bibliography

1. K.C., D.J., Ghimire, S., Ghimire, J.L., Upreti, A., and Gautam, A.S. (2022). *Foundations of mathematics*. Kathmandu: Asmita books pulisher & distributors (P) LTD.
2. Emelda, M. (2018, March 13). Difference between degrees and radians. *Difference between similar terms and objects* .
3. https://www.onlinemathlearning.com/radians-degrees.html
4. https://flexbooks.ck12.org.com
5. https://www.brainkart.com
6. https://mathbitsnotebook.com
7. https://www.slideshare.net/SumanBargav/relation-between-radian-and-degrees
8. https://www.cuemath.com
9. https://mathvox.com
10. https://byjus.com
11. . https://toppr.com

1. . https://google.com