If You Not Practice
"MERI AATMA
TUMHE HARDAM
SATAYEGI "

"Math's is Just a Language – Not a Monster!"

Let's understand math, do not fear it.

MATH'S FEAR VANISHER

SUBHANKAR SIR

Common Fears Students Have while learning maths

- “Mujhse Maths kabhi nahi hoga...”
- “Main hamesha confuse ho jaata hoon...”
- “Yaad nahi rehta, samajh nahi aata...”
- “Yeh Formula ab kaha se aa gaya bhai ?”

  👀 *Let’s solve this today.*

I will teach you every thing even single formula. Where its come from and how nothing to learn *(T&C applied)*

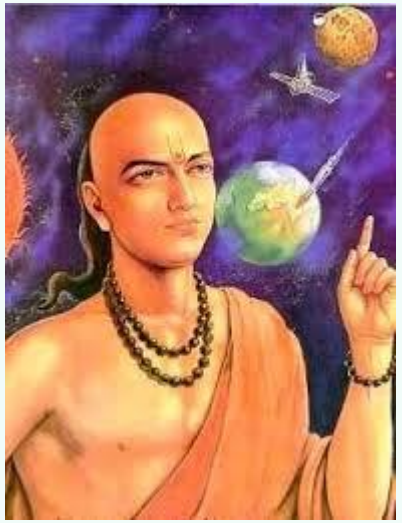
Agar language samajh aata hai, toh Maths bhi samajh aayega.

How Language Comes in Human Life.

This are called sign language or immature language universally not accepted or not set of rules.

How Maths Language Comes in Human Life.

Discovered Shunya..
Or Zero " 0 "



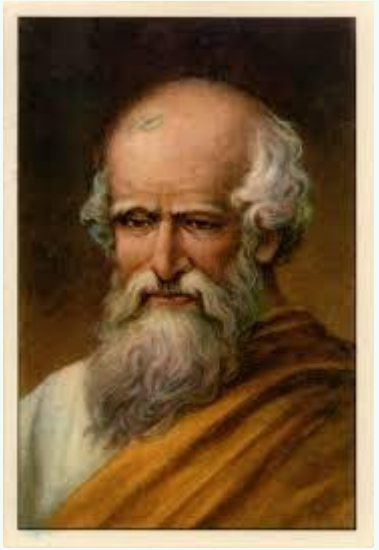
Aryabhata
476 to 550 CE

Roman numbers: I, ii, iii, iv , v……..
Chinese numbers : 一, 二 , 三 ……..
Indian Number system: १ , २ , ३ ……..

After invention of zero

- Invented in **India** (called "Shunya")
- Carried to **Arab world**, then to **Europe**
- Made **place value system** possible (like 103, 1205)
- Enabled **modern mathematics** (algebra, calculus, computers!)

- 🔢 *Without 0, we can't have computers, phones, or even ATM , Modern Aircrafts….*



Archimedes
c. 287 – c. 212 BC

Mathematics is just a Language of Logic

- Maths is not that thing you have registered in your brain since childhood.
- The hardest subject , The headache subject , The complex subject,
- The toppers favourite subject, The smart people's Subject wagerah wagerah….

Advantages:

- Helps us in many ways in daily lives from calculating price of 5 Chocolates to 500 ml Milk or When I will arrive at school if I leave home at 9:45 instead of 9 o'clock.

Maths is not a subject — it's part of your life.

You might be say sir no Disadvantages ?

Mathematics' Job is to do easy Our tasks.

The number is greater than 5 and less than 10.
$5 < x < 10$

ENGLISH LANGUAGE	NO. OF LETTERES USED	MATHEMATICS LANGUAGE	NO. OF LETTERES USED
1. Total of a and b	12	a + b	3
2. Difference of a and b	17	a - b	3
3. Twice the value of x	16	2x	2
4. Half of the sum of a and b	19	(a + b)/2	7
5. Piece of Pizza equally divided into 4 people.	37	¼ of PIZZA	1
6. If a man earns ₹500 per day and works for 30 days, what is his total income?	60	Income = 500 × 30 = ₹15,000	21

Language Features

Language features	ENGLISH	MATHEMATICS
ALPHABETS/SYMBOLS/SOUND	A B C D E F G H I … (total = 26 (alphabets)	0,1,2,3,4,5,6,7,8,9 (total = 10) (digits)
WORD (GROUP OF LETTERS)	APPLE (group of 5 letters showing meaningful object)	23346 (group of 5 digits) (Group of digits called Number, similar to word in English)
Sentence	Eat an apple in a day keeps doctor away (group of words = sentence)	234 + x + 76b = 289 (group of numbers = expression or equation)
Grammer/Rules of language	Noun, Pronoun… Tense, Voice, Narration. Letter writing format etc..	BODMAS, Trigonometric identities, Algebraic Formulas

Mathematics have similar features even much better rules than any language in the world. So therefor, Mathematics Called a easiest Language in the world. But less knowledgeable teachers makes it the world's difficult language for the students.

From FEAR to FUN…….(f2f connection)

- You don’t need to “learn” Maths… just “understand” it
- We’ll break everything into small steps
- Aapka doubt ho ya dar — sab khatam hoga!
  MFV: Subhankar Sir ke sath ☑

✸ *Ready to start with the Number System?*

REAL NUMBERS

Real numbers are simply the combination of rational and irrational numbers, in the number system. In general, all the arithmetic operations can be performed on these numbers and they can be represented in the number line

NUMBERS

0,1,2,3,4,5,6, 876, 1000, 975659, 0.55, 5/9 , 2.3 , 9%, √3 , √5

A number is a mathematical value used for counting and measuring objects, and for performing arithmetic calculations. Numbers have various categories like natural numbers, whole numbers, rational and irrational numbers, and so on.

NUMBER SYSTEM

A number system is a system representing numbers. It is also called the system of numeration and it defines a set of values to represent a quantity. These numbers are used as digits and the most common ones are 0 and 1, that are used to represent binary numbers. Digits from 0 to 9 are used to represent other types of number systems.

There are different types of number systems in which the four main types are as follows.

Binary number system (Base - 2)---------- (0,1)
Octal number system (Base - 8) (0-7)
Decimal number system (Base - 10) (0-9)
Hexadecimal number system (Base - 16) (0-9, A-F)

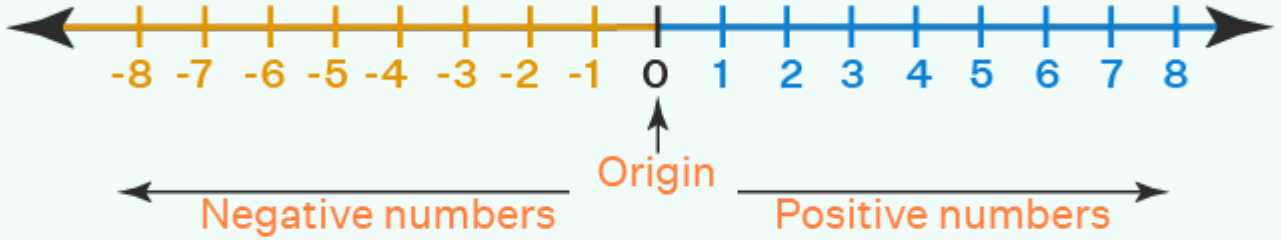
CLASSIFICATION OF NUMBERS

- **Real Numbers** — 1,2,3… ; 0.5,0.346.3.556 ; $\sqrt{5}$, $\sqrt{3}$
  - **Rational Numbers** — 2, 1/2, -3/5, 0, 22/7….
    - **Integers** — 1,2,3,4,5,…… ; -1,-2,-3,-4,-5…….
      - **Positive Integers** — 1,2,3,4,5,……
      - **Negative Integers** — -1,-2,-3,-4,-5..
      - **Non-Positive Integers** — 0,-1,-2,-3,-4,-5..
      - **Zero Integers** — 0
      - **Non-Negative Integers** — 0,1,2,3,4,5,……
        - **Even** — 0,2,4,6,8,10…..
          - **Prime Numbers** — 2,3,5,7,11,13……..
          - **Composite Numbers** — 4,6,8,9,10,12…
          - **Perfect Numbers** — 4,6,8,12,16,28…..
        - **Odd** — 1,3,5,7,9,11…
    - **Decimals** — 0.5,14.2828, 3.1732453673…….
      - **Terminating Decimals** — 0.5,14.28, 1.25
      - **Non-Terminating Decimals** — 14.2828, 3.1732453673……..
        - **Recurring/Nontrd** — 0.55,14.2828
        - **Non-recurring/Nontnrd** — 3.1732453673……..
  - **Irrational Numbers** — $\sqrt{5}$, $\sqrt{3}$ ……
- **Imaginary Numbers** — $\sqrt{-5}$, $\sqrt{-3}$, …….

CLASSIFICATION OF NUMBERS

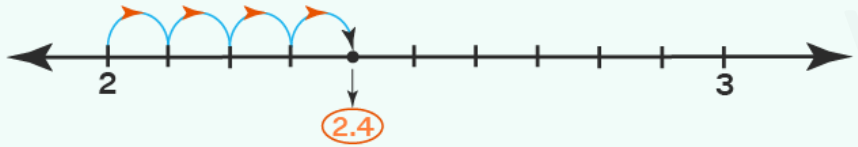
REAL NUMBERS

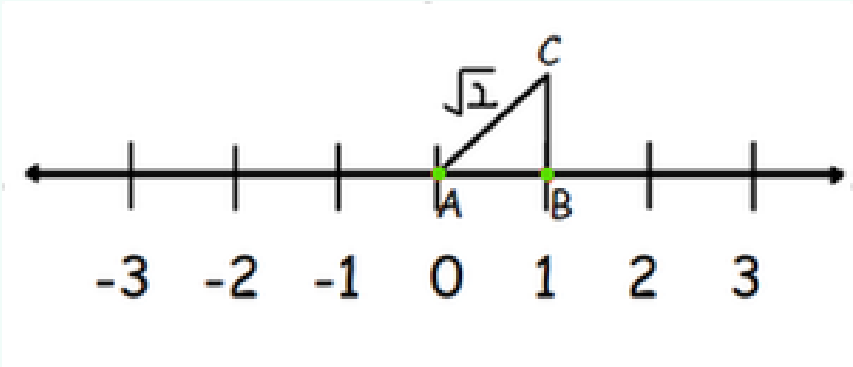
The numbers which can be represent on the number line
(For eg: 1,2,3,.....
$\sqrt{5}$, $\sqrt{3}$)
0.5, 0.26

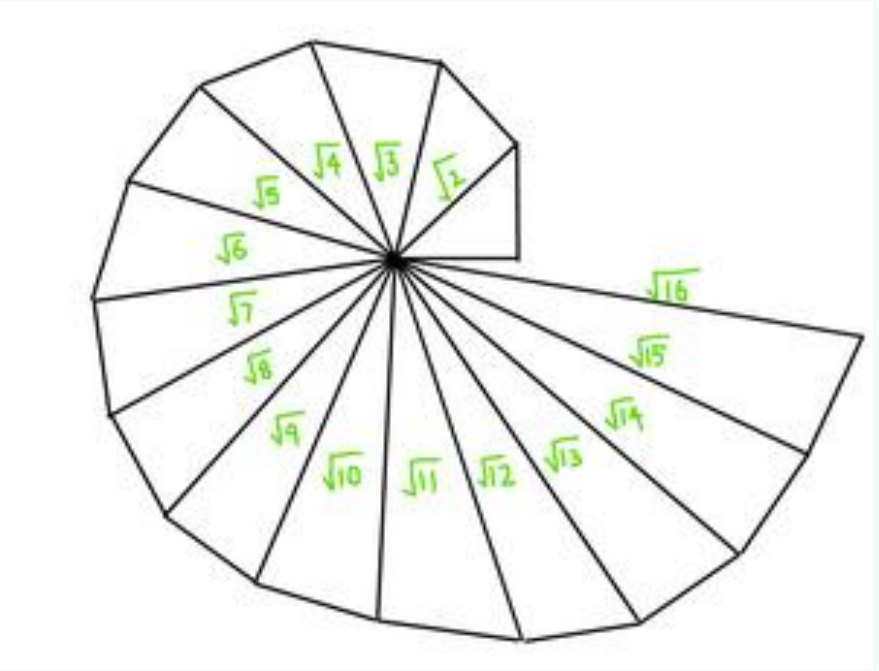


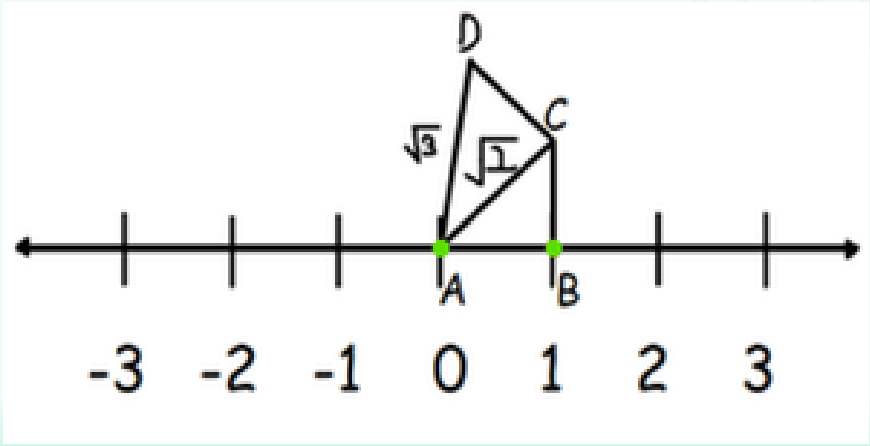
IMAGINARY NUMBERS

The numbers which can't be represent on the number line
(For eg: $\sqrt{-5}$, $\sqrt{-3}$)









REAL NUMBERS

Rational Numbers

The numbers which can be represent is the form of Fraction or P/Q and P and Q Both are Integers and Q ≠ 0
(For eg: 2, 1/2 , - 3/5 , 22/7)

Irrational Numbers

The numbers which can't be represent is the form of Fraction or P/Q
(For eg: √5 , √2 , √3, π

Rational Numbers

Integers

This is the one type of rational number where Denominator is 1 or In P/Q Form Q = 1 always)
(For eg: 1,2,3, -1, , -2 , -4 ,0)

Decimal

This is the type of rational number where Denominator is not 1 or In P/Q Form Q ≠1 always)
(For eg: 1,2,3, -1, , -2 , -4 ,0)

Decimal

Terminating Decimal

Terminating decimals mean it does not reoccur and end after a finite number of decimal places.
For eg: (543.534234. 27.3, 1.5 etc)

Non - Terminating Decimal

Non-terminating decimals: It means that the decimal numbers have infinite digits after the decimal point.
For eg: (54543.23774632439473747..., 827.79734394723... etc)

Non – Terminating and Repeating Decimal /Recurring

In recurring decimal numbers, digits repeat after a fixed interval.
For example, 94346.374374374..., 573.636363... etc.

Non – Terminating and Non-Repeating Decimal/ Non- recurring

numbers, digits never repeat after a fixed interval. For example 743.872367346.., 7043927.78687564... and so on)
Basically irrational numbers

Integers

Positive Integers/ Natural Numbers

Integers that are on the right side of 0 on a number line are called positive integers.
(For eg: +1,+2,+3,4…….)

Negative Integers

Integers that are on the Left side of 0 on a number line are called Negative integers.
(For eg: -1,-2,-3,-4…….)

When we include zero " 0 " as an Integer

Non- Positive Integer

For eg: (0, -1 , -2 , -3, -4 ,…….)

Zero Integer

For eg: 0

Non- Negative Integer

For eg: (0, 1 , 2 , 3, 4 ,…….)
Also Called Whole Numbers

Positive Integers/ Natural Numbers

Even Numbers

The Number Which are Divisible by 2 or Multiple of 2
(For eg: 2,4,6,8…….)
Q- is -2 also a even number?
yes -2,0,2

Odd Numbers

The Number Which are not Divisible by 2 or Multiple of 2
(For eg: 1,3,5,7,9…….)
Q- is -3 is a odd number ? yes

Addition or Substraction of Even and Odd
E + E = E
E + O = O
O + O = E

Multiplication of Even and Odd
E * E = E
E * O = E
O * O = O

Positive Integers/ Natural Numbers

Prime Numbers

The Number Which have only two factor itself and 1. or The numbers which are divisible by Itself and only 1
(For eg: 2,3,5,7,11,13,17,19,23…….)

Composite Numbers

The Number Which have more than two factors. or The numbers which are divisible by more than two numbers
(For eg: 4,6,8,9,10,12,14,15,15,18,20,21,22…….)

Perfect Numbers

A perfect number is a positive integer that is equal to the sum of its positive factors, excluding the number itself
(For eg: 4,6,8,12,16,28…….)

Factors of 6 are finite:
1,2,3,6
Multiples of 6 are infinite:
6,12,18,24,30…….

List of Prime Numbers from 1 - 1000

	2	3	5	7	11	13	17	19	23
29	31	37	41	43	47	53	59	61	67
71	73	79	83	89	97	101	103	107	109
113	127	131	137	139	149	151	157	163	167
173	179	181	191	193	197	199	211	223	227
229	233	239	241	251	257	263	269	271	277
281	283	293	307	311	313	317	331	337	347
349	353	359	367	373	379	383	389	397	401
409	419	421	431	433	439	443	449	457	461
463	467	479	487	491	499	503	509	521	523
541	547	557	563	569	571	577	587	593	599
601	607	613	617	619	631	641	643	647	653
659	661	673	677	683	691	701	709	719	727
733	739	743	751	757	761	769	773	787	797
809	811	821	823	827	829	839	853	857	859
863	877	881	883	887	907	911	919	929	937
941	947	953	967	971	977	983	991	997	

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Thank You