Σ

SIGMA

2022-24

Σ

$a^2-b^2=(a+b)(a-b)$

GEOMETRY

1	8	6
9	2	7
4	5	3

$a^2=1$

$(ab)^n=a^nb^n$

2255

$A=l\times w$

MATH

$\sin^2\theta+\cos^2\theta=1$

$C=2\pi r$

$A=\pi r^2$

Math

$x^2=a2(f)p$

$A=\frac{1}{2}bn$

$f(x)=\sum\frac{f(1)}{\angle 1^\circ}$

$S=vt$

$\lambda=$

a^2-b^2

$\pi=3.14$

$\angle ABC-130^\circ$

numbers

$a^2=1$

$(a+b)^2=a^2+2ab+b^2$

$(a-b)^2=a^2-2ab+b^2$

1+1=2

TRIANGLE

1

$(a^m)^n=a^{mn}$

$A=\frac{1}{2}bh$

$\frac{a^m}{a^n}=a^{m-n}$

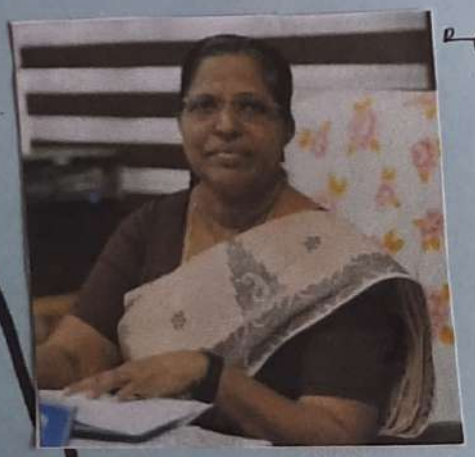
13/12/2022

007

ആശംസ

2022-2024 ബാച്ച് അധ്യാപക വിദ്യാർത്ഥികളുടെ സർഗ്ഗാത്മകതയുടെ തെളിവാർന്ന പ്രകടനരൂപമാണ് നമുക്ക് ലഭിച്ചിരിക്കുന്ന 'സിഗ്മ - 2022-24' ഗണിത ശാസ്ത്ര സംബന്ധമായ വസ്തുതകളെ ക്രിയാത്മകമായി ആവിഷ്ക്കരിക്കാനും ചുറ്റിനും സുന്ദരമായി വരും കാലത്തേക്ക് ഓർമ്മക്കുറിപ്പായി അവശേഷിപ്പിക്കാനും പ്രിയ കൂട്ടുകാർ ശ്രദ്ധിച്ചിരിക്കുന്നു. പി.കെ.എം കോളേജിലെ ഗണിത വിഭാഗം വർഷങ്ങളായി തുടർന്നുവരുന്ന 'സിഗ്മ 2022-24' നവീനമായ രൂപഭംഗിയോടെ 2022-23 അധ്യയന വർഷവും പുറത്തിറങ്ങുന്നത് അനിയായ സന്തോഷം നൽകുന്നു. ഒരുമയുടെ കൂട്ടുത്തരവാദിത്വത്തിന്റെ നേർക്കാഴ്ചയായി സിഗ്മ ഉയർന്നു നിൽക്കുമ്പോൾ നേതൃത്വം നൽകിയ പ്രിയപ്പെട്ട അധ്യാപിക ഡോ. ഷോളി ജോസഫ് കെ, മിസ് ലിയ, മിസ് ചൈതന്യ സി.കെ. തുടങ്ങിയവർ പ്രത്യേകം അഭിനന്ദനം അർഹിക്കുന്നു. ഗണിതപഠനം രസകരമാക്കി അധ്യാപനം ഫലദായകമാക്കാൻ ഈ പ്രവർത്തനം എല്ലാ അധ്യാപക വിദ്യാർത്ഥികൾക്കും ഗുണകരമാകട്ടെ എന്ന് ആശംസിക്കുന്നു.

എന്ന്,



ഡോ. ജെസ്സി എൻ.സി

പ്രിൻസിപ്പാൾ

പി.കെ.എം കോളേജ്, മാഹി

എഡ്യുക്കേഷൻ, മടപ്പള്ളി

ആശംസ

ഈ വർഷത്തെ സിഗ്മ യ്ക്ക് എല്ലാവിധ ആശംസകളും നേരുന്നു. പഠനത്തിനോടൊപ്പം പാഠ്യേതര പ്രവർത്തനങ്ങളും കൊണ്ടു പോകാൻ സാധിച്ചതിൽ വളരെ സന്തോഷമുണ്ട്. നിങ്ങളുടെ കലാവിരുതുകൾ കൊണ്ട് മാഗസിനാക്കാൻ സാധിച്ചത് കൊണ്ട വലിയ നേട്ടം തന്നെ. ഇത് നിങ്ങളുടെ ഭാവി ജീവിതത്തിൽ തുടർന്നും കൊണ്ടുപോകാൻ സാധിക്കട്ടെ എന്നാശംസിക്കുന്നു

Best Wishes,

ഡോ. ഷോളി ജോസഫ് കെ
ചീഫ് എഡിറ്റർ
അസിസ്റ്റന്റ് പ്രൊഫസർ
ഗണിതശാസ്ത്ര വിഭാഗം
പി.കെ.എം കോളേജ് ഓഫ്
എഡ്യുക്കേഷൻ, മാന്വ

സബ് എഡിറ്റർ.
Liya

ഭൂഗോളത്തിന്റെ സ്പന്ദനം കണക്കിലാണെന്ന
പാഠ്യോമാഷിന്റെ ധയലോഗിനെ ഒന്നുകൂടി അന്വർത്ഥമാ-
ക്കിനിയിലെത്തിച്ചുവാൻ തൈനംദിന ജീവിതത്തിൽ
കണക്കിനുള്ള പ്രധാന്യം വളരെ വലുതാണെന്ന്
മനസ്സിലാക്കാം. ആധുനിക വിദ്യാഭ്യാസത്തിൽ വലരെ
കൃത്യമായി സ്വാധീനം ചെലുത്താൻ ഗണിതശാസ്ത്രത്തി-
ന കഴിഞ്ഞതാണ് വിദ്യാർത്ഥികളിൽ ഗണിതശാസ്ത്ര-
ത്തോടുള്ള ആഭിമുഖ്യം വളർത്തുക എന്ന പ്രധാന
ലക്ഷ്യത്തോടെ ഗണിതശാസ്ത്രമേളകളെ
സമന്വയമായി ആടയാളപ്പെടുത്തുകയാണ്
'സിഗ്മ 2022-24'. പുതിയ ഗണിതശാസ്ത്രദിനത്തെ
പരിചയപ്പെടുത്തിക്കൊണ്ട് കണക്കിലെ കുട്ടികളിലൂ-
ടെയാണ് സിഗ്മ നിങ്ങളിലേക്ക് എത്തുന്നത്.
എന്നു പ്രവർത്തനങ്ങളിലും
പൂർണ്ണപിൻതുണയും പ്രോത്സാഹനവും നൽകുന്ന
പ്രിൻസിപ്പാൾ ജെസ്സി മാം, മാഗസിൻ പ്രവർത്ത-
നങ്ങളിൽ മാർഗ്ഗദർശിയായി നിന്ന അധ്യാപിക
ഷൈജി ടീച്ചർ, സിഗ്മയുടെ കാതോ താളിലും
തൈയ്യൊപ്പ് ചാർത്തിയ മാത്സ്സ്
അധ്യാപക വിദ്യാർത്ഥികൾ, മാഗസിൻ
പ്രവർത്തനങ്ങളിൽ പ്രവൃത്തിപരിചയവും
സാനിധ്യം കൊണ്ടും കൂടെനിന്നവർ,
എല്ലാവർക്കും ഒരുപാടിൽ

നന്ദി...

ലിയ,
സെക്രട്ടറി.

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Dr. SHOLY JOSEPH K
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Sub Editor

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Student Teacher.
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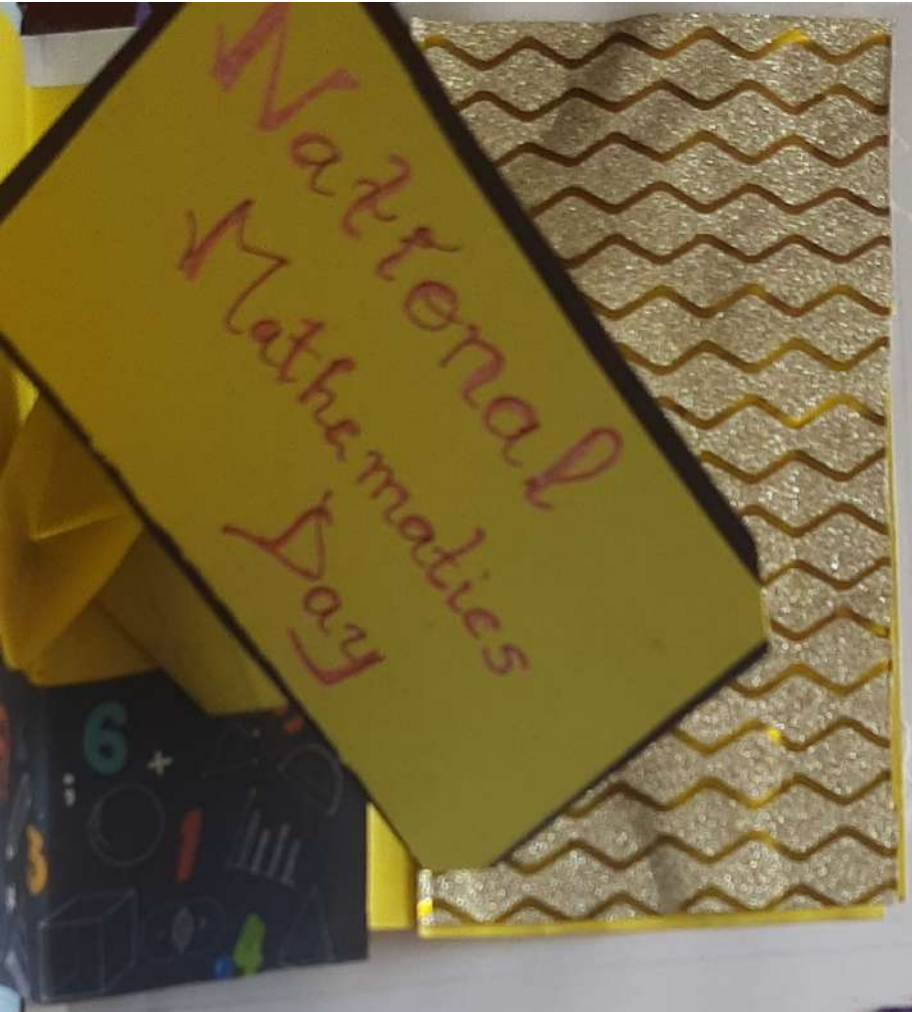
Content

Every year, 22 Dec. is observed as National Mathematics Day to mark the birth of anniversary of Srinivasa Ramanuja, a legendary Indian Mathematician. His contributions to number theory, infinite series, mathematical analysis, etc are considered instrumental. Mathematics Day is marked to celebrate his works and recognise him as a legend in mathematics.

Marking the birth anniversary of Srinivasa Ramanujan, National Mathematics Day celebrates & raises awareness about his golden acheviements. Ramanujan was considered a gifted Mathematician, as he resolved some of the 'unsolvable' equations and presented significant mathematical analysis. He is regarded as one of the world's greatest mathematicians on a national & global level.



Mathematics Day - History

- Ramanujan was born to an Iyengar Brahmin family in Erode, Tamil Nadu, in 1887
- In 1918, he was invited as a member of the London Mathematical Society in Britain and became the youngest Fellow of the Royal Society
- Ramanujan's works were recognized by British mathematicians like G.H. Hardy, who was spelled bounded by his knowledge of advanced mathematics
- In 2012, the former prime minister Dr. Manmohan Singh marked this day as National Mathematics Day to pay tribute to the legendary Srinivasa Ramanujan

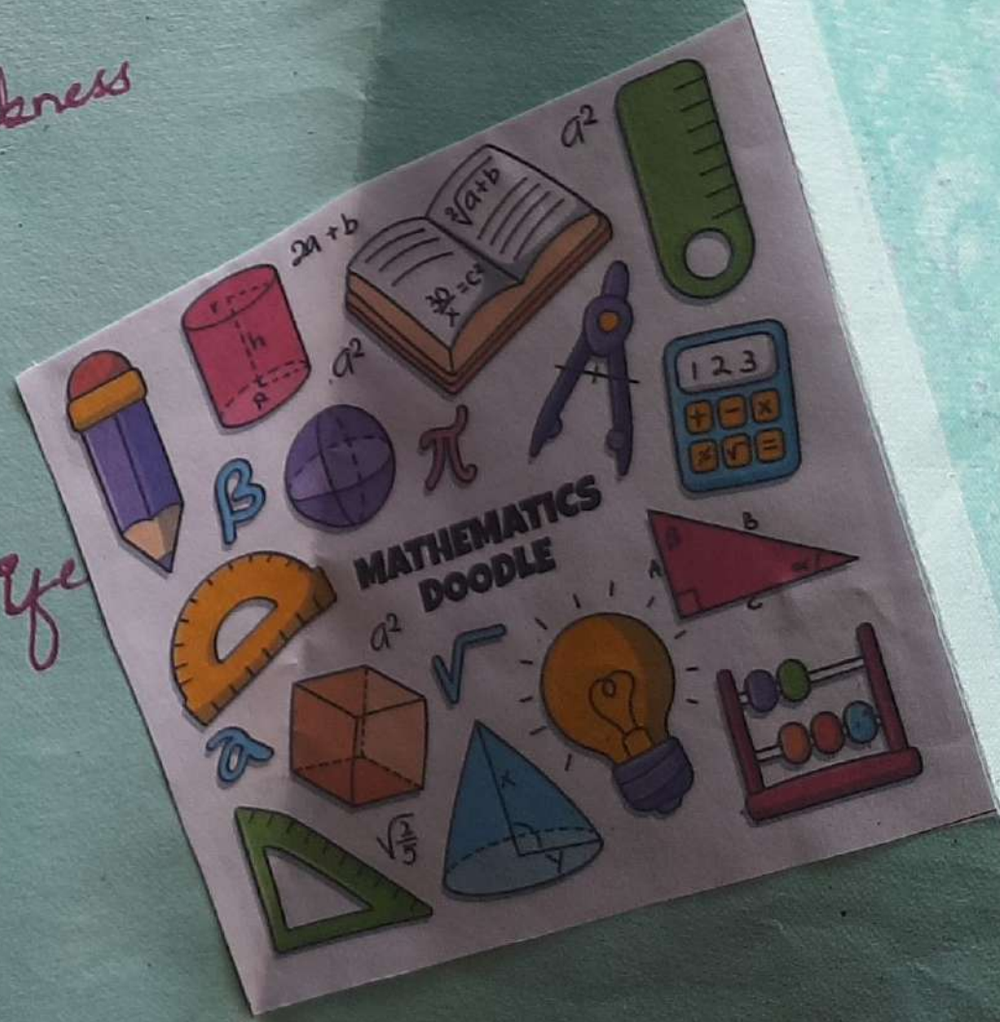
Ramanujan's Contributions to Mathematics.

- He made diverse contributions to the theory of numbers and mathematical functions.
- He theorized on divergent series, Reimann series, hypergeometric series, the elliptic integrals, and the functional equations of the zeta function
- In 1911, his papers were published in the Journal of the Indian Mathematical Society
- The number 1729 is known as the Hardy Ramanujan number.

Mathematics of Life

Add the Opportunities
Substract the errors
Multiply the victories
Divide the obstacles
Integrate your calibre
Differentiate your weakness
Inverse the density
Simplify the struggle

Solve Your Life



π Day March 14

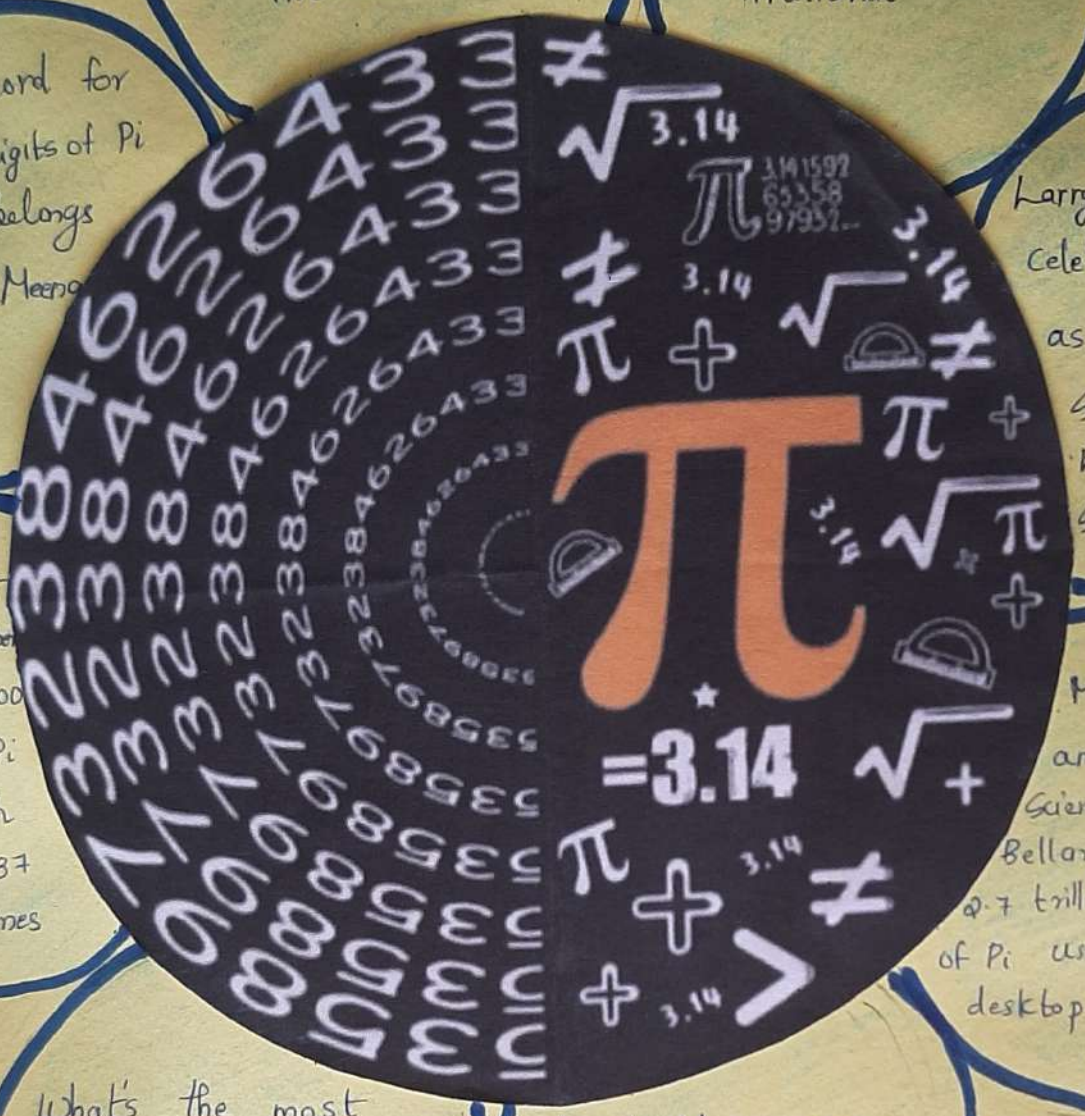
Pi, or π never changes. It's the ratio of the distance around any circle to the circle's diameter and is always 3.14.

We'll never be able to find all the digits of Pi because it's defined as an irrational number.

A mathematician named Lambert also showed in 1761, that the number Pi is irrational

The record for the most digits of Pi memorized belongs to Rajveer Meena of Vellore, India

Physicist Larry Shaw started Celebrating March 14 as Pi-day at San Francisco's Exploratorium Science Museum in 1988



The most common number in the first 100,000 decimal places of Pi is no. 1, which occurs 10,137 times

Mathematician and Computer Scientist Fabrice Bellard calculated 2.7 trillion decimal places of Pi using just a desktop computer in 2010.

What's the most mathematical Snake?

A pi-thon

Why should you never argue with pi?

He is completely irrational

Why should you never talk to pi?

Because she'll just go on forever.

great

PYTHAGORAS

(570-495 B.C)

EUCLID

(300 B.C)

ARCHIMEDES

(287-212 BC)

ARYABHATTA

(476 AD-550 A.D)

Mathematicians

BHASKARACHARYA -II

(1114-1185)

CARL FRIEDRICH GAUSS

(1777-1855)

SREENIVASA RAMANUJAN

(1887-1920)

SHAKUNTHALA DEVI

(1929-2013)

MATHEMATICS MEDALS

NEVANLINNA PRIZE

The IMU Abacus Medal known before 2022 as the Rolf Nevanlinna Prize is awarded once every four years at the International Congress of Mathematics, hosted by the International Mathematical union for outstanding contributions in Mathematical Aspects of Information Sciences.

CHERN MEDAL

The Chern Medal is an international award recognizing outstanding lifelong achievement of the highest level in the field of Mathematics. The first is given at ICM, which is held at every four years.

GAUSS PRIZE

Gauss Prize was created in 2002 by the worldwide organization for mathematics, the International Mathematics Union, to promote awareness of the influence of mathematics "as a key technology a deriving force behind many modern technologies.

FIELDS MEDAL

Fields Medal is regarded as one of the highest honours a mathematician can receive - and has been described as the Nobel prize of Mathematics. It is awarded to two, three, or four mathematicians under 40 years of age at the International Congress of the IMU, a meeting that takes place every four years. The name of the award honours the Canadian mathematician John Charles Fields.

Fibonacci Day

NOVEMBER 23

Also known as Leonardo of Pisa and Leonardo Fibonacci, Leonardo Bonacci invented a pattern of counting that continues to influence math & technology today. The pattern is made up of numbers that sum the previous two numbers before them - 1, 1, 2, 3, 5, 8, 13- and so on. The sequence is used in computing, stock trading, and architecture and design.

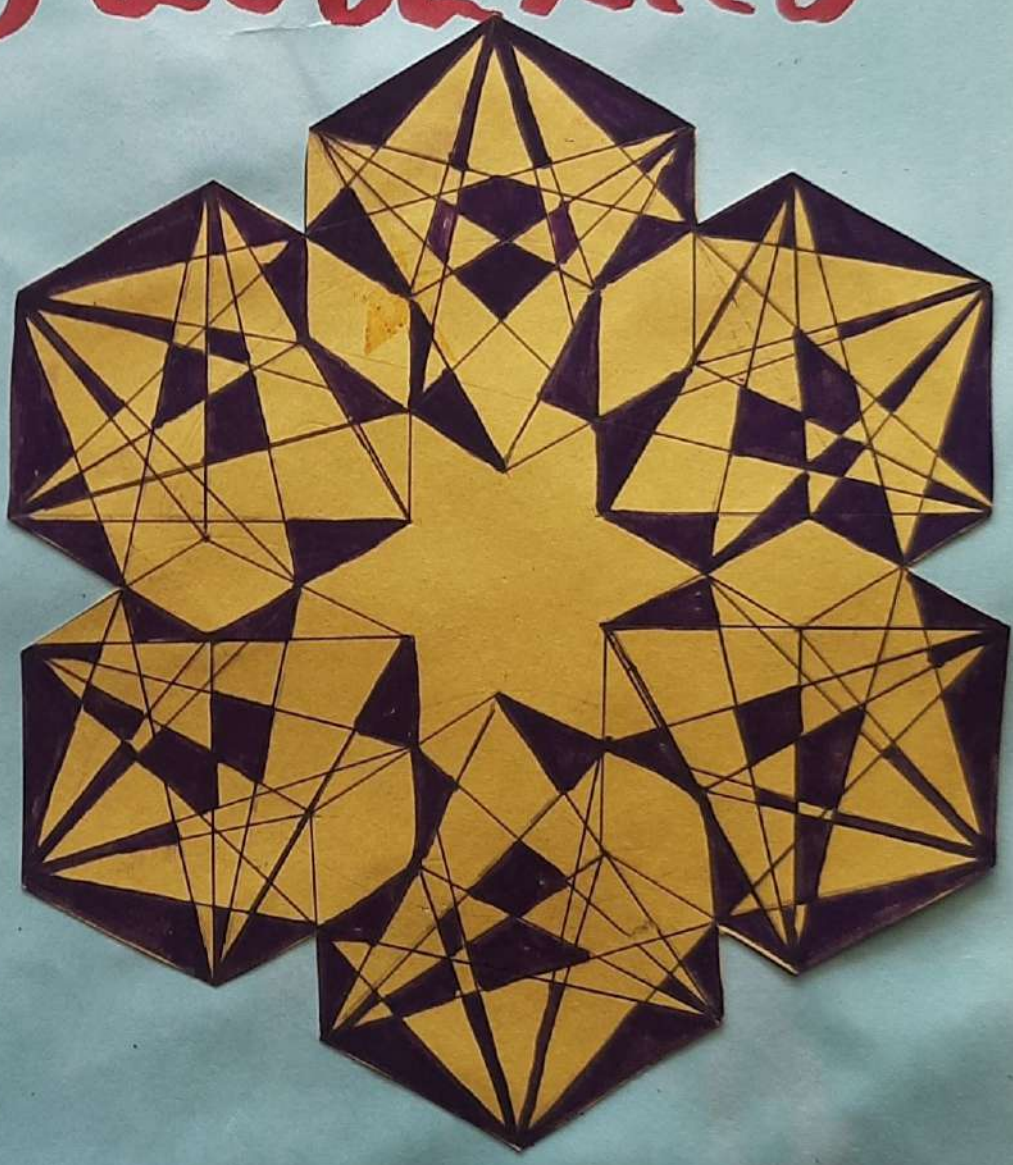
Once we discovered the sequence, it started showing up everywhere. Nature is full of Fibonacci patterns, from DNA to hurricanes, leading to "nature's secret code."

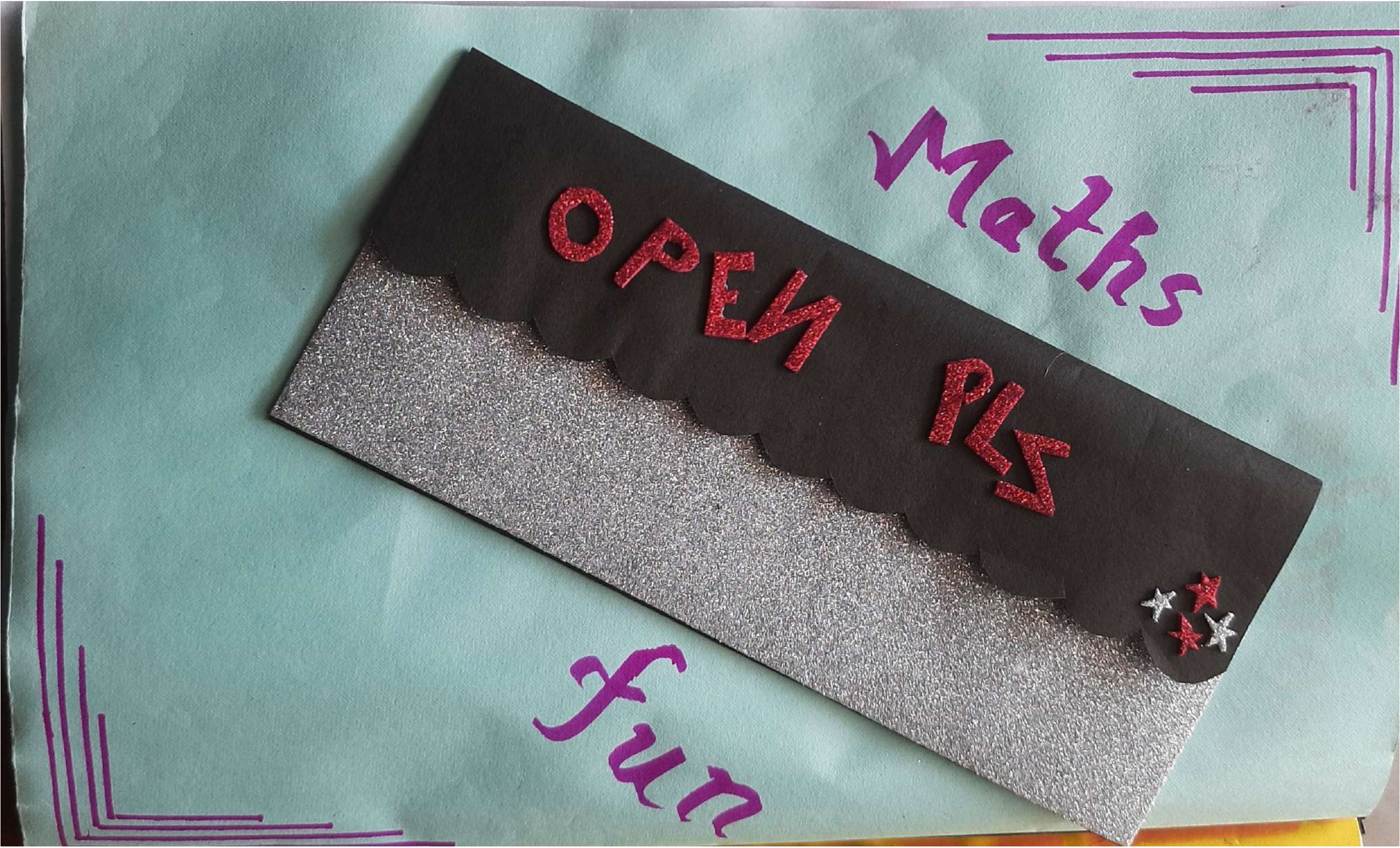
Golden Ratio

the golden ratio is derived by dividing each number of the Fibonacci series by its immediate predecessor. In mathematical terms - if $F(n)$ denotes the n^{th} Fibonacci number, the quotient $F(n)/F(n-1)$ will approach the 1.618... for increasingly high value of n. This limit is better known as the golden ratio.

Number Patterns

Geometric Patterns




Maths
OPEN PLS
fun

Mathematics is full of fun

...tics is a full of fun
... much to Learn
are added
are Substracted
...ultiplied
...ivided

Which number cannot be represented by Roman numerals?

The word "hundred" comes from the old Norse term "hundrath" - which actually means 120 and not 100.

Most mathematical symbols weren't invented until the 16th century. Before that, equations were written in words.

A 'jiffy' is an actual unit of time. It means 1/100th of a second

The fraction of Pi is 22 over 7 but its actual number is still unknown to everyone.

An icosagon has 20 sides.

MATHEMATICS

Mathematics is full of fun

Mathematics is a full of fun
With so much to Leaarn
Porofits are added
while losses are Substracted
Degrees are multiplied
And Percentage is divided
Geometary is full of mysteary
Algebara has a big historay
Integers as different as brothers
Lines are Parallel
Angles are similar
Maths is necessary in life
Without it, it is difficult to survive...

Maths Magic

PHONE NUMBER TRICK

1. Enter the First 3 digit of the phone number in to the calculator.
2. Multiply It by 40
3. Multiply the result by 25
4. Add the next 3 digits of the phone number to the result.
5. Multiply the result by 50.
6. Add 1 to the result.
7. Multiply the result by 400.
8. Add the last 4 digit of the phone number to the result
9. Add the last 4 digit of the phone number to the result one more time.
10. Divide the result by 2.
11. Substract 200 from the result.

The number you got is your phone number.

Three Digit Magic Trick

1. Pick a 3 digit number with 3 different digits
2. Reverse the digits of the number.
3. Substract the smaller number from the larger number
4. Add up the digits of the result.

Your result is 18

Dominoes Puzzle

How to use

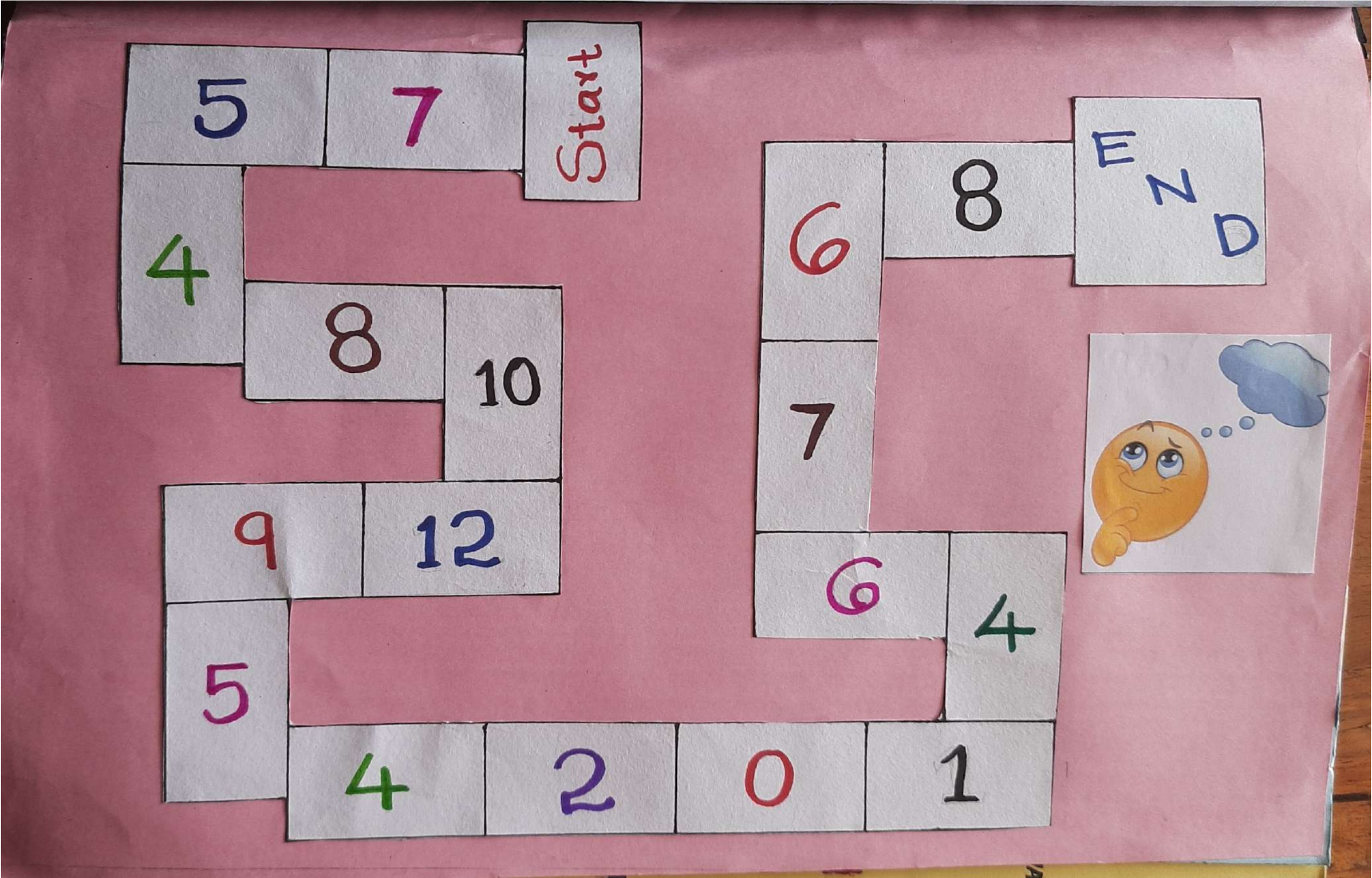
Look at the number inside the box. Find a domino whose sum equals that number. For example, if a domino has 3 dots on one side and 2 dots on the other side, its sum is 5. You can place this domino in a box with a 5. Try to fill all of the boxes with the correct dominoes

Regular domino rules apply!

You can only place a domino beside another domino if the number of dots that are touching are the same

Materials

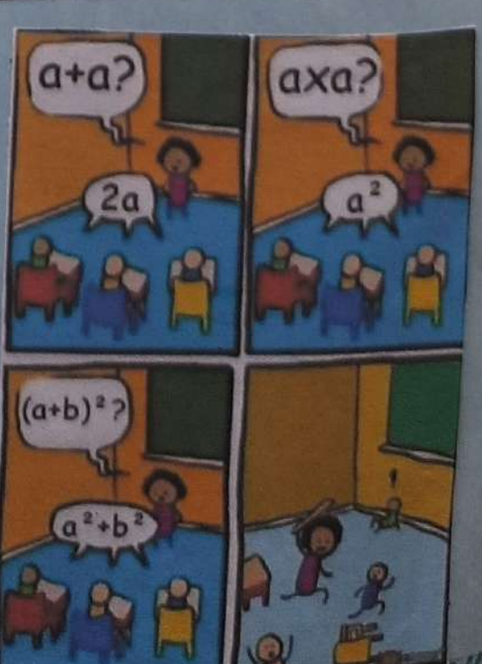
Use all dominoes (0-6) dots only

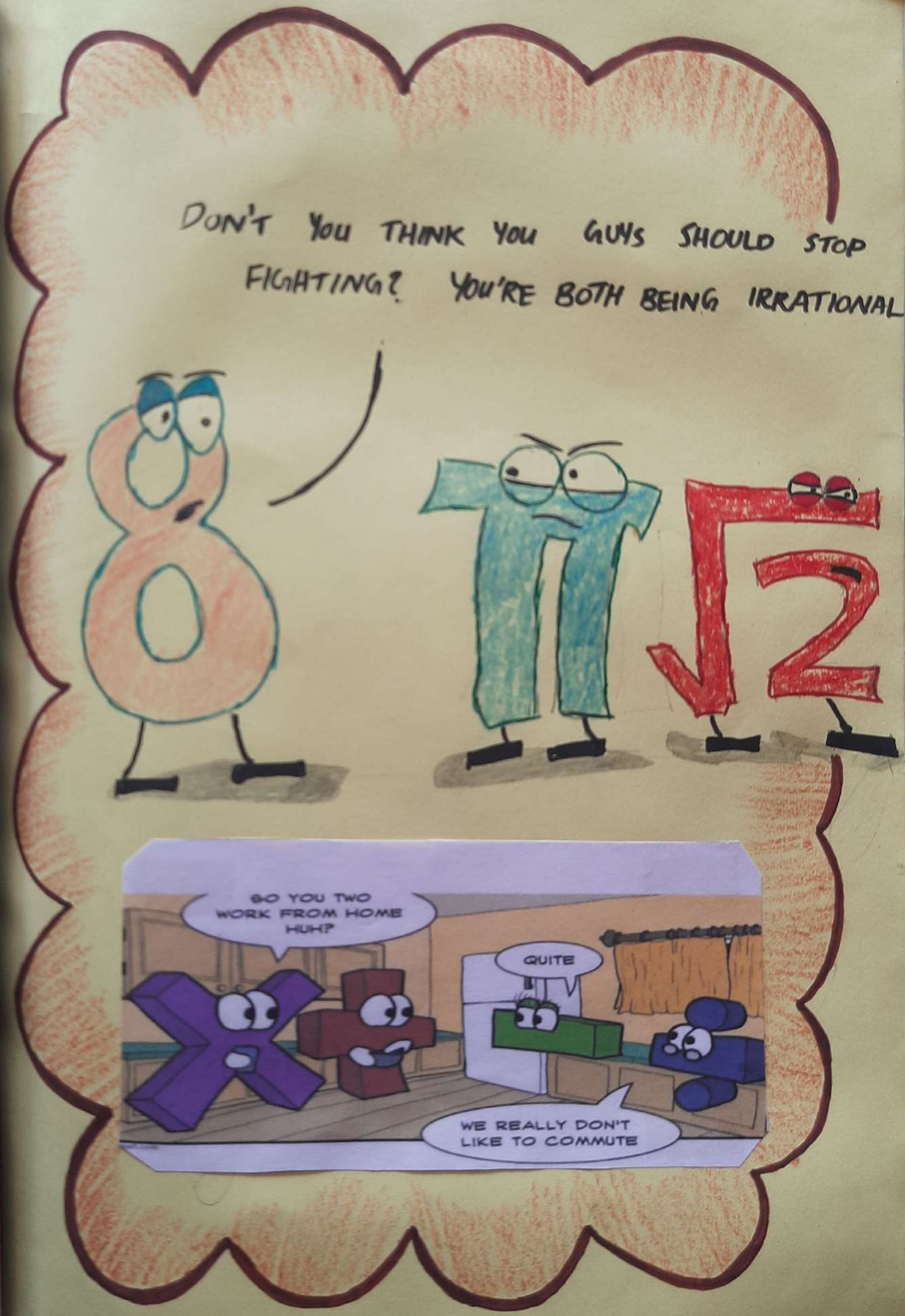

5
7
Start
4
8
10
9
12
5
4
2
0
1
6
8
E N D
6
7
6
4

Maths Comics

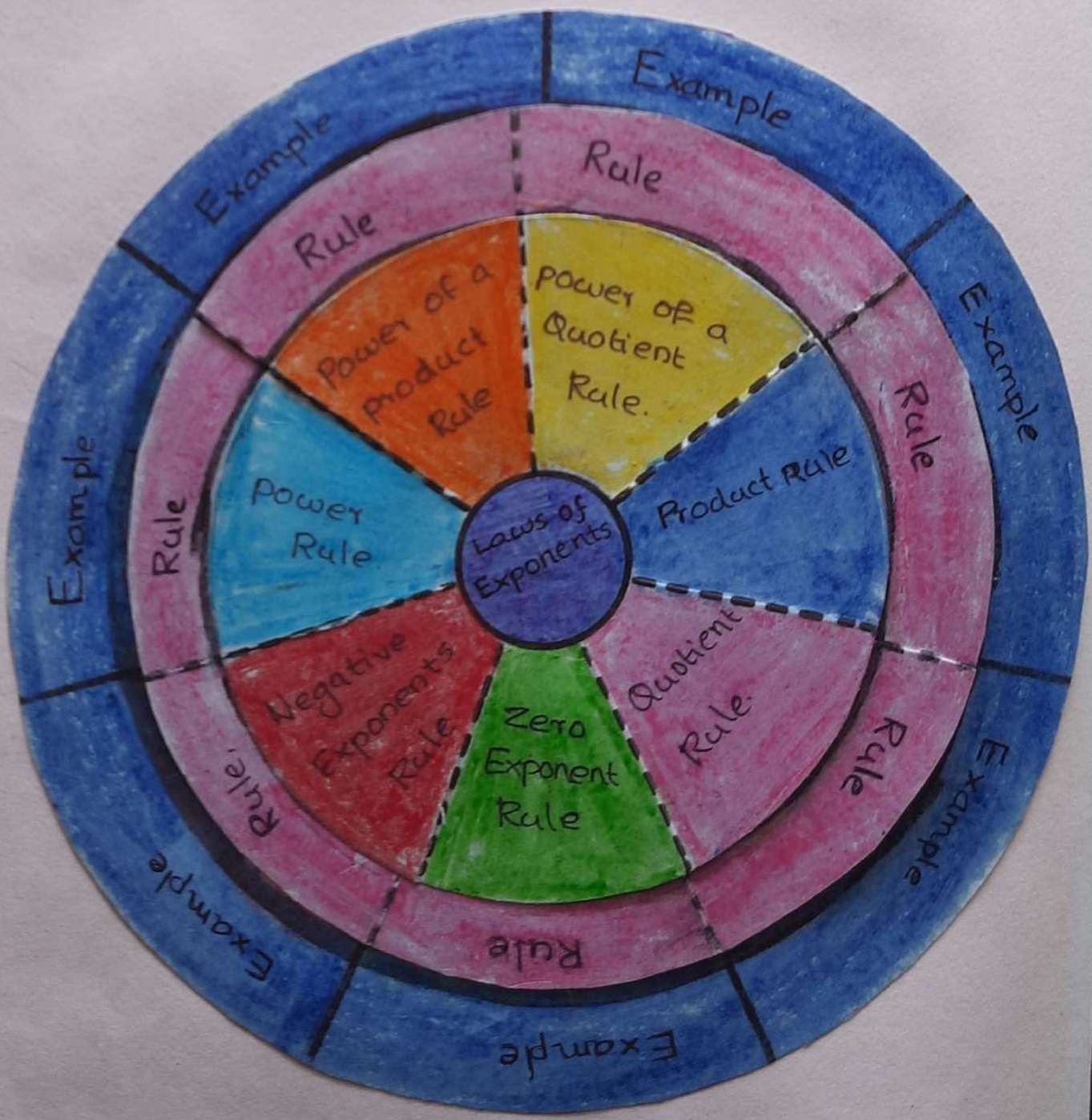
Hey man, if you could spare a 10,
it would really help me out...

257
-39




DON'T YOU THINK YOU GUYS SHOULD STOP FIGHTING? YOU'RE BOTH BEING IRRATIONAL
SO YOU TWO WORK FROM HOME HUH?
QUITE
WE REALLY DON'T LIKE TO COMMUTE

Laws of Exponents



CROSSWORD PUZZLE

This is a crossword puzzle without the words - numbers are the answers instead (a single digit for each square in the grid) Unlike a crossword puzzle, deductive logic based on a knowledge of Math is required to workout the answers. Additional clue: there is no 3 cross in the completed grid.

ACROSS

1. The first 2 digits are a prime no, the second 2 are the next lower prime no.
5. A perfect cube.
6. A multiple of the cube root of 4 DOWN, sum of digits is 6.
8. The sum of the first two digits equals the sum of the last two digits equals the middle digit.
9. A perfect cube
11. The square of the cube root of 4 DOWN
12. The product of 10 DOWN times 6 ACROSS

1	2	3	4	■
5			6	7
8				
	■	9	10	
11		12		

DOWN

1. A number in which each digit is one lower than the preceding digit.
2. The sum of the digits is two-thirds the product of the digits
3. The product of three primes; the first 10 larger than the second; the second 10 larger than the third.
4. A perfect cube
7. All even digits, each different.
9. A perfect cube
10. A prime number.

Answer to the puzzle

Riddle me this

- What is the smallest number that when divided successfully by 45, 454, 4545 and 45454, leaves the remainders 4, 45, 454 & 4545 respectively.
- What number composed of nine figures, if multiplied by 1, 2, 3, 4, 5, 6, 7, 8, 9 will give a product with 9, 8, 7, 6, 5, 4, 3, 2, 1 (in that order), in the last nine places to right?
- On a clock, how many times a day do the minute and hour hand overlap?
- How can you make the following equation true by drawing only one straight line: 5+5+5 = 550. Can you figure it out?

Laugh Out Loud

After a talking sheepdog gets all the sheeps in the pen, he reports back to the farmer: "All 40 accounted for."
"But I only have 36 sheeps", says the farmer. "I know", says the sheepdog. "But I rounded them up".

Q. What happened to the plant in Math class?
A. It grew square roots.

Q. Why wasn't the geometry teacher at the school?
A. Because she sprained her angle!!

Q. How do you make the seven an even number?
A. Take the S out!

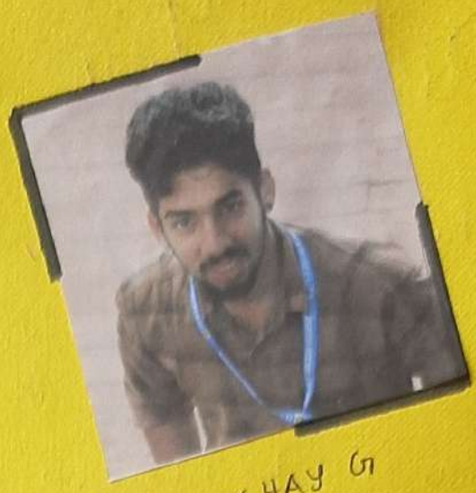
Q. Why did I divide sin by tan?
A. Just cos.

Did You Know?

- Abacus is considered the origin of the calculator
- 12,345,678,987,654,321 is the product of 111,111,111 × 111,111,111. Notice the sequence of the number 1 to 9 and back to 1
- Plus (+) & Minus (−) sign symbols were used as early as 1489 A.D.
- An icosagon is a shape with 20 sides
- From 0 to 1000, the letter "A" only appears in 1,000 ("one thousand").
- A 'jiffy' is an actual unit of time for 1/100 th of a second.
- 'FOUR' is the only number in English language that is spelt with the same number of letters as the number itself.
- In a group of 23 people, at least two have the same birthday with the probability greater than 1/2
- Among all shapes with the same perimeter, a circle has the largest area.
- Among all shapes with the same area, circle has the shortest perimeter.
- In 1995, in Taipei, citizens were allowed to remove '4' from street because it sounded like 'death' in Chinese; Many Chinese hospitals do not have a 4th floor.
- The word 'FRACTION' derives from the Latin "fractio – to break."

Answers to Riddles

AKHILA · V

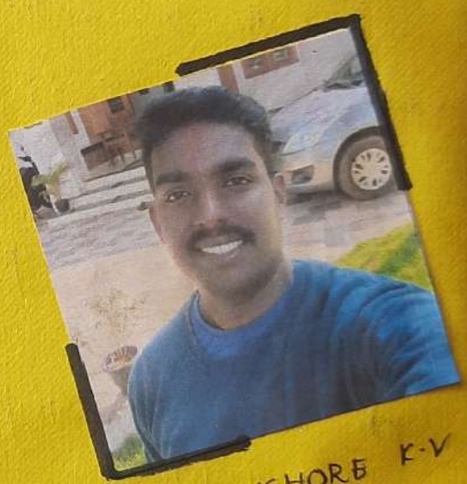


AKSHAY G

ANU MARIA JACOB

ARCHANA K·N

CHAITHANYA C·K



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