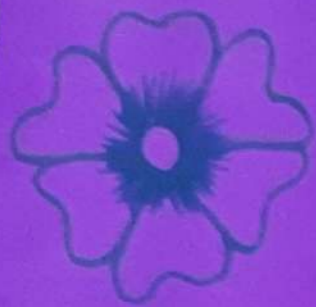


Sigma 2021-23

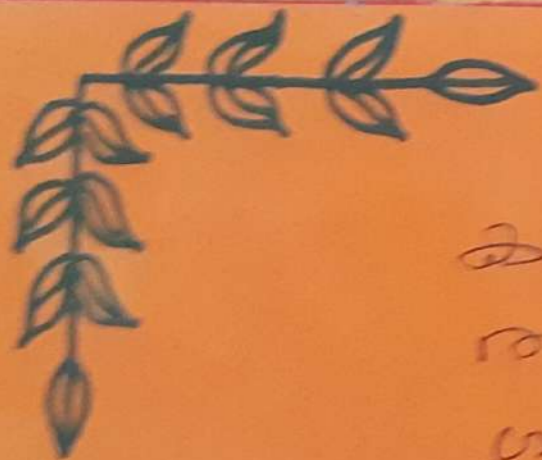




All the best wishes to the class magazine of the students of 21-23 batch, Sigma 2021-23. Creations... any type is unique... where mathematicians tried to combine their literary efforts it is really adorable. Congratulations and best wishes to all my dear students

[Handwritten signature]

Dr. Sholy Joseph K
Assistant Professor in Mathematics

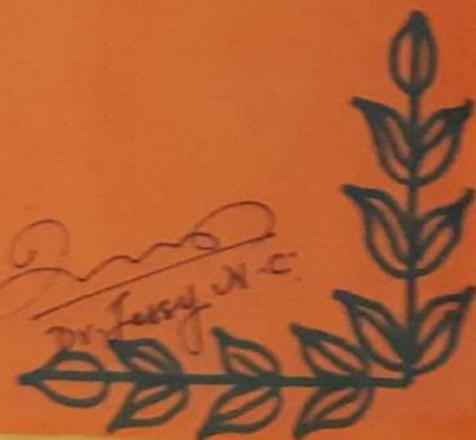


കണക്കിന്റെ കളികളിലൂടെ ഗണിതശാസ്ത്രസാധ്യമാക്കുന്ന
രസകരമാക്കിത്തന്നാൻ കൗതുകപ്രിയപ്പെട്ട
ഗണിതശാസ്ത്ര സാധ്യമാക്കിത്തന്നവർക്കിടയിൽ
നന്ദിയർപ്പിക്കുന്നു. നിങ്ങളുടെ സർവ്വസഹായം നന്ദിയർപ്പിക്കുന്നു

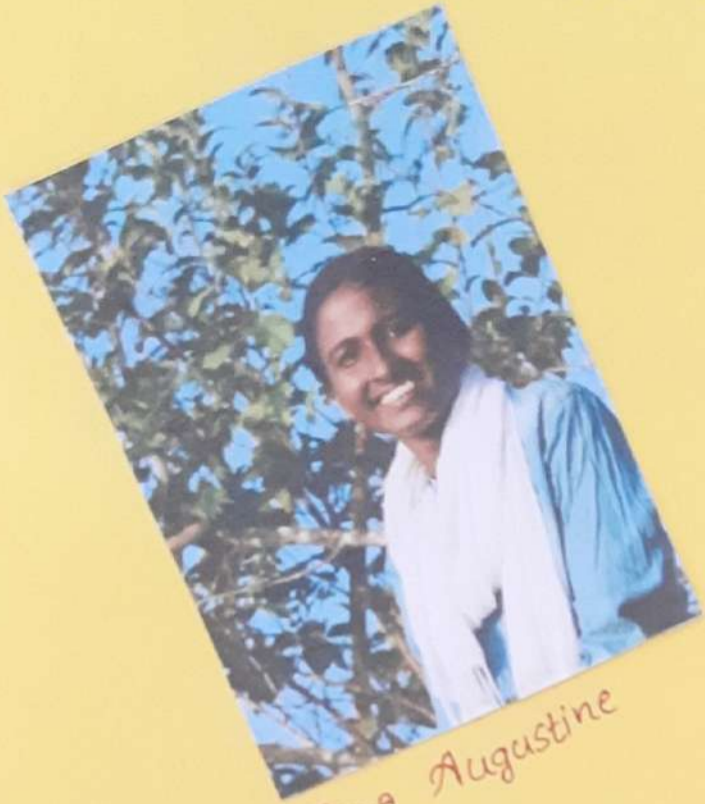
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Dr. Sholy Joseph K



Associate Editors



Jisna Augustine



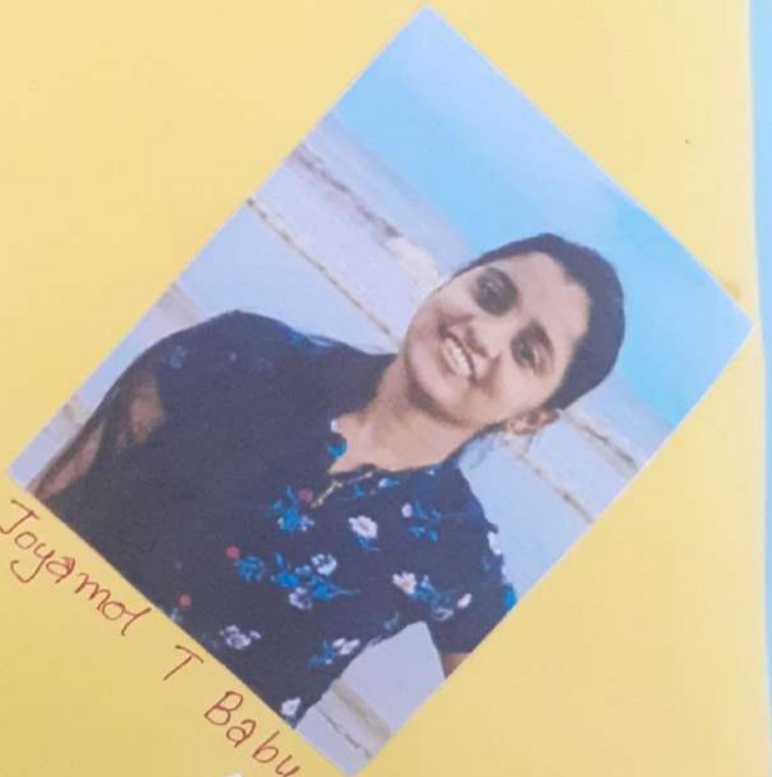
Jwala Mariya Cyniac



Sneha V



Manjusha N



Joyamol T Baby



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Haritha P.V





INDEX

1. Mathematics	1
2. Math Quotes	2, 3
3. Geometric Pattern	4, 12, 22, 24, 25
4. Math Poem	5
5. കമ്മക്കിന്റെ സ്വപ്നമാലകൾ	6
6. Shapes Poem.	7
7. Mathematicians.	8
8. Did you know !	9
9. Genius Test	10
10. കലാകർ (ഒരാൾ)	11
11. Sudoku	13, 14
12. Math Quotes	15
13. No Nobel for Mathematics.	16, 17
14. കമ്മക്കിന്റെ കളികൾ	18
15. Math Poem	19
16. ഭിന്നസംഖ്യകൾ	20
17. Fathers of Mathematics.	21
18. Math Game	23
19. ഗണിത ക്വിസ്	26
20. Mathematics of Life	27
21. Math Puzzle	28
22. Math Maze	29
23. Importance of Mathematics.	30
24. Interesting facts about Maths.	31
25. Activity	32
26. Have fun !	33
27. Puzzle	34
28. Number pics.	35, 36, 37
29. കൃത്യനികരണം	38

MATHEMATICS

- M - Miracle of nature
- A - Art of arithmetic.
- T - Tool of knowledge.
- H - Habit of problem solving.
- E - Evaluation of civilization.
- M - Magic of numbers.
- A - Application of rules.
- T - Tools of Knowledge.
- I - Ideas of Intellect
- C - Creativity of algebra
- S - Science of learning

There is geometry in
the humming of the strings,
There is music in the spacing
of the spheres.
- Pythagoras

If a man's wit be wandering
let him study the
mathematics.

Mathematics is the
supreme judge;
From its decisions
There is no appeal

Beauty is the first test;
There is no permanent place in the
world for ugly mathematics.
- G. H. Hardy.

Math is the only place
where truth and beauty
mean the same thing.

Mathematics
is not about
numbers, equations,
computations or algorithms.
It is about understanding.
-William Paul Thurston

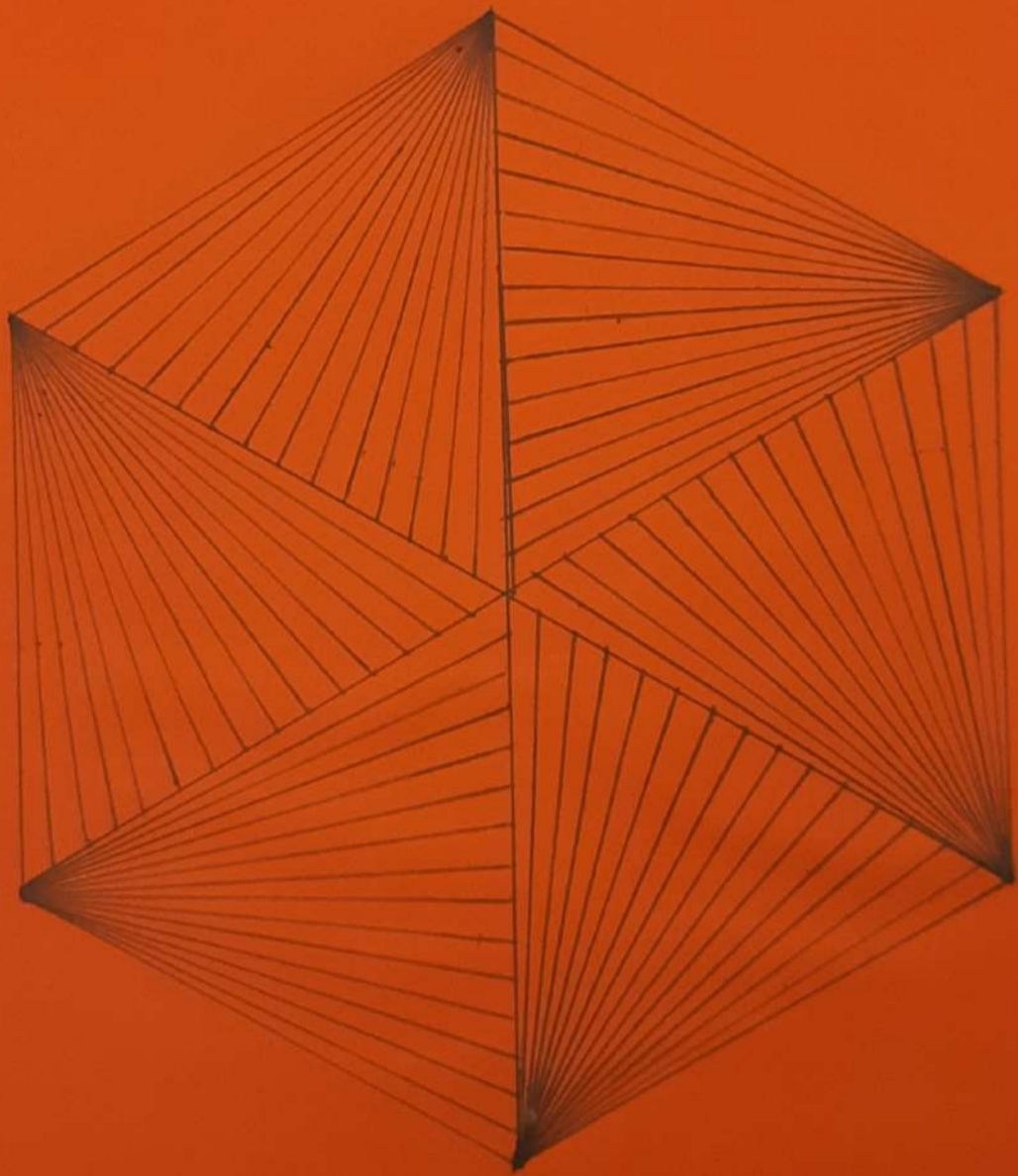
The only way
to learn
mathematics
is to do
mathematics
- Paul Halmos

Math may not teach us
how to Add love
or subtract hate
but it gives us hope
that every problem
has a solution.

Without mathematics,
there's nothing you can do.
Everything around you
is mathematics.
Everything around you
is numbers
- Shakuntala Devi

Mathematics is the
Music
of
Reason.
- James Joseph Sylvester.

4



MATH

Math is like time,
It never stops.

Math is a book
You can't close it till it's done.

Math is like a lottery
You can never win.

Math is a painting.
You can't lose interest in it.

Math is like an eternity,
It is never over.

Math is a smile,
It can be happy and evil.

Math is a roller coaster,
It's exciting.

Math is like an alien,
You don't know all about it.

Math is a bag,
It can hold your skills.

Math is like a sword,
When you mess up it hurts.

Math is a mother,
It's always there when you need it.

Math is like a rainbow,
It has a treasure at the end.

കന്നടത്തിന്റെ സ്വപ്നനായകൻ

ശ്രീനിവാസ രാമാനുജൻ

ഗണിത വിഹാലസിൽ ഏതെങ്കിലും തിളങ്ങി നില്ക്കുന്ന ഭാരതീയ ഗണിതശാസ്ത്രപ്രതിഭയാണ് ശ്രീനിവാസ രാമാനുജൻ. തമിഴ്നാട്ടിലെ കുന്ദകോണത്തിനടുത്തുള്ള ഇനോഡിൽ 1887 ഡിസംബർ 22 ന് ശ്രീനിവാസ അയ്യങ്കരയുടെയും കോളയാളിന്റെയും മകനായി രാമാനുജൻ ജനിച്ചു. ഗവണ്മെന്റിന്റെ പഠിപ്പിച്ചപ്പോൾ തന്നെ ഒരു ഓടി ഒരു തൊഴിലുള്ള ഏല്പാ അഭ്യർത്ഥനകളും രാമാനുജൻ മനോഹരമായിരുന്നെന്ന് ഗണിതാധ്യാപകൻ സാക്ഷ്യപ്പെടുത്തിയിട്ടുണ്ട്. ഗണിതപ്രശ്നങ്ങളുമായി ഉറങ്ങാൻ പോകുകയും, സ്വപ്നത്തിൽ അവ പരിഹരിക്കുകയും ചെയ്യുകയാണ് രാമാനുജന്റെ രീതി.

22	12	18	87
21	84	32	2
92	16	7	25
4	27	82	26

22	12	19	87
21	85	32	2
92	16	7	25
5	27	82	26

6	1	8
7	5	3
2	9	4

SHAPES

Cindy Circle

Cindy circle is my name.
 Round and round I play my game.
 Start at the top and then bend
 Up we go, there is no end.



Trisha Triangle

Trisha Triangle is the name for me.
 Tap my sides, one, two, three.
 Flip me, slide me, you will see...
 A kind of triangle I'll always be



Sammy Square

Sammy square is my name.
 My four sides and angles are just the same
 slide me or flip me. I don't care
 I'm always the same. I'm a square



Ricky Rectangle

Ricky Rectangle is my name.
 My four sides are not the same
 Two are short and two are long
 Hear me sing my happy song.



Mathematicians

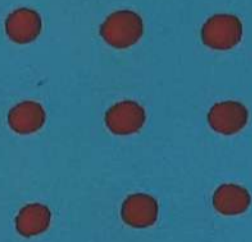


Did you know!

- ★ Abacus is considered the origin of the calculator.
- ★ 12,345,678,987,654,321 is the product of $111,111,111 \times 111,111,111$. Notice the sequence of the numbers 1 to 9 and back to 1.
- ★ Every odd number has an "e" in it.
- ★ "One" is the only number that is spelt with letters arranged in descending order.
- ★ In a room of 23 people there's a 50% chance that two people have the same birthday.

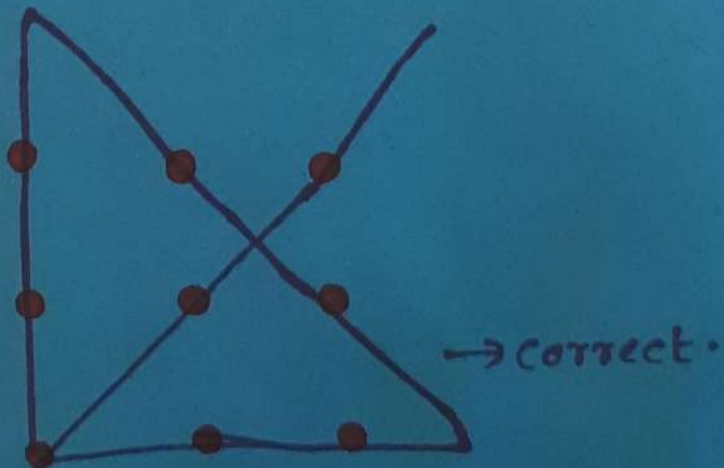
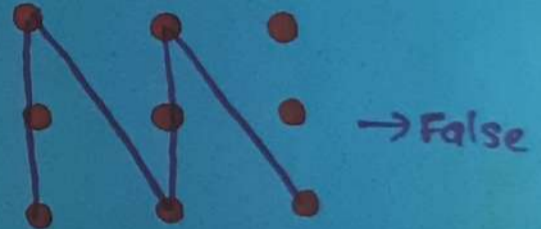
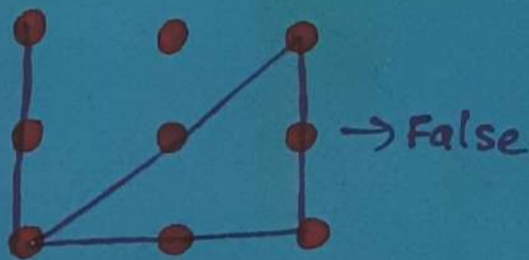
Genius test

Rules: Draw 9 dots as shown.



Your task is to go through all the dots using only 4 straight lines. The next line has to start where the last one ended!!!

For example:



കലണ്ടർ ടിപ്പ്

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
0	3	3	6	1	4	6	2	5	0	3	5	NY
6	2	3	6	1	4	6	2	5	0	3	5	LY

Year	Year code
1600	6
1700	4
1800	2
1900	0
2000	6

Sun	Mon	Tue	Wed	Thu	Fri	Sat
0	1	2	3	4	5	6

Q) 1948 ജനുവരി 30 ഏൽ ദിവസമാണ് ?

Step 1	Date	30
Step 2	Month	6
Step 3	Year	0
Step 4	Last two digit	48
Step 5	Last two digit ÷ 4	$48 \div 4 = 12$
Total	odd days	96

$$96 \div 7$$

odd days നെ 7 കൊണ്ട് ഹരിച്ചുമാർ കിട്ടുന്ന ശിഷ്ടം day code ആയിരിക്കും.

ഇവിടെ നമുക്ക് കിട്ടുന്ന ശിഷ്ടം 5 ആണ്. അതുകൊണ്ട് 1948 ജനുവരി 30 വെള്ളിയാഴ്ച ആണ്.



SUDOKU

The popular Japanese puzzle game Sudoku is based on the logical placement of numbers. Sudoku doesn't require any calculations nor special math skills, all that is needed are brains and concentration.

How to play Sudoku

The goal of Sudoku is to fill in a 9×9 grid with digits so that each column, row and 3×3 section contain the numbers between 1 to 9. At the beginning of the game, the 9×9 grid will have some of the squares filled in. Your job is to use logic to fill in the missing digits and complete the grid. Don't forget, a move is incorrect if

- * Any row contains more than one of the same number from 1 to 9.
- * Any column contains more than one of the same number from 1 to 9.
- * Any 3×3 grid contains more than one of the same number from 1 to 9.

Sudoku Tips

Sudoku is a fun puzzle game once you get the hang of it. At the same time, learning to play sudoku can be a bit intimidating for beginners. So if you are a complete beginner, here are a few sudoku tips that you can use to improve your Sudoku skills.

*Tip-1 - Look for rows, columns or 3×3 sections that contain 5 or more numbers. Work through the remaining empty cells, trying the numbers that have not been used. In many cases, you will find numbers that can only be placed in one position considering the other numbers that are already in its row, column and 3×3 grid.

*Tip-2: Break the grid up visually into 3 columns and 3 rows. Each large column will have 3, 3×3 grids and each row will have 3, 3×3 grids. Now look for columns or grids that have 2 of the same number. Logically, there must be a 3rd copy of the same number in the only remaining 9-cell section. Look at each of the remaining 9 positions and see if you can find the location of the missing number.

MATHS QUOTES

"Mathematics is not about numbers, equations, computations, or algorithms: it is about UNDERSTANDING"

- William Paul Thurston.

"The only way to learn mathematics is to do mathematics"

- Paul Halmos.

"Without mathematics, there's nothing you can do. Everything around you is mathematics. Everything around you is numbers."

- Shakuntala Devi

"The book of nature is written in the language of mathematics"

- Galileo Galilei

"Mathematics is the Door and Key to the SCIENCES"

- Roger Bacon

No Nobel for Mathematics

Alfred Nobel's last will stated that his fortune is used to create a series of Prizes for those whose contributions in the fields of Physics, Chemistry, Physiology or medicine, literature and Peace were the "greatest benefit to mankind". However, no Nobel Prize was designated for Mathematics. There are various speculations on the

possible reasons for this exclusion. Some of them are worth going through. It is often discussed that Nobel found Maths too theoretical. Since he believed that only practical inventions or discoveries could benefit mankind, he might have disregarded this subject whose practical applications are often obscure. The other

theory is an unfounded one. Rumours have it that Nobel disliked a contemporary mathematician, Costa-Milloag-Leffler, with whom his partner allegedly cheated him. This made him detest the subject too and moreover, he didn't wish Leffler to win this prize.

The other reason can be linked with an already exist-

ting Math award. King Oscar II of Sweden and Norway had already established a Prestigious award for Mathematicians and Nobel felt that instead of duplicating it, other fields should be given their due.

Whatever the reason be, there is ~~no~~ no Nobel Prize in Mathematics. However there is another Prestigious award which is considered a Parallel to the Nobel. It is the Abel Prize. It was Proposed by a Norwegian Mathematician Sophus Lie when he learned that Noble had omitted Mathematics in his Series of awards.

കണക്കിലെ കളികൾ

1. ഒന്നിന്റെ വലുപ്പം

1 എന്ന സംഖ്യ 4 തവണ മാത്രം ഉപയോഗിച്ച് ഉണ്ടാക്കുവാൻ കഴിയുന്ന ഏറ്റവും വലിയ സംഖ്യ ഏത്?

ഉ: 11¹¹

2. വ്യത്യാസം

5 അക്കമുള്ള ഏറ്റവും ചെറിയ സംഖ്യയും 4 അക്കമുള്ള ഏറ്റവും വലിയ സംഖ്യയും തമ്മിലുള്ള വ്യത്യാസമെന്ത്?

ഉ: 1

3. പെൻസിലിന്റെ വില

ഒരാൾ കടലിൽ നിന്ന് 11 രൂപയ്ക്ക് ഒരു നോട്ടുപുസ്തകവും പെൻസിലും കൂടി വാങ്ങി. പെൻസിലിനേക്കാൾ 10 രൂപ കൂടുതലാണ് നോട്ടുപുസ്തകത്തിന്. പെൻസിലിന് മാത്രം എന്തു വിലയാകും?

ഉ: പെൻസിലിന്റെ വില = 50 പൈസ

പുസ്തകത്തിന്റെ വില = 10 രൂപ 50 പൈസ.

4. ഏറ്റവും കുറവ്

0 മുതൽ 99 വരെയുള്ള സംഖ്യകൾ കണക്കിലെടുത്താൽ ഏറ്റവും കുറച്ചുതവണ ആവർത്തിക്കുന്ന അക്കമെന്ത്?

ഉ: 0. (ഇവിടെ 0 എന്ന സംഖ്യ 10 പ്രാവശ്യം മാത്രമേ ഉപയോഗിക്കുന്നുള്ളൂ).

5. 5 ദമ്പതുകൾ തമ്മിൽ 10 ഉണ്ടാക്കുന്ന തെങ്ങനെ 2 ദിനസംഖ്യകൾ ഉപയോഗിച്ച്. ദശാംശം പാടില്ല.

ഉ: $9 + \frac{99}{99} = 9 + 1 = \underline{\underline{10}}$

MATH

We are the sum of everything and everyone
we've ever known and ever will become.

We are subtracted from air, landscape, ideas
of swirling integers - the plus of minus

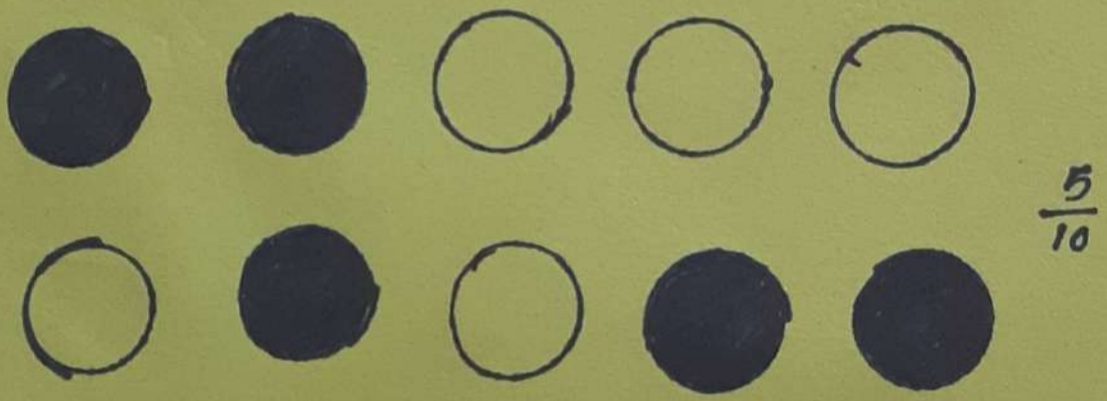
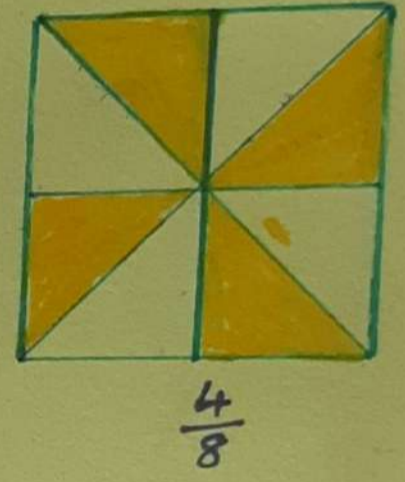
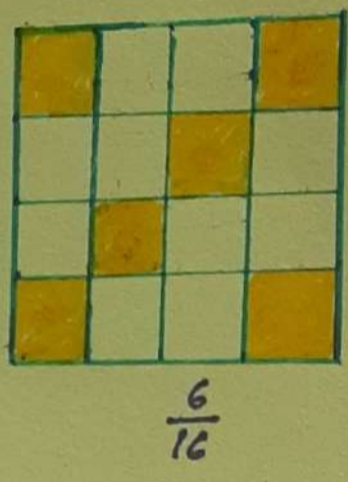
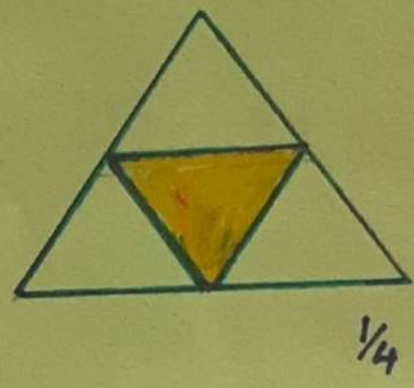
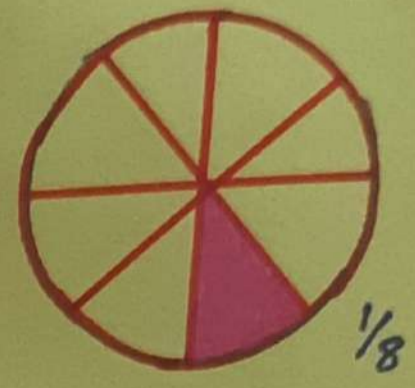
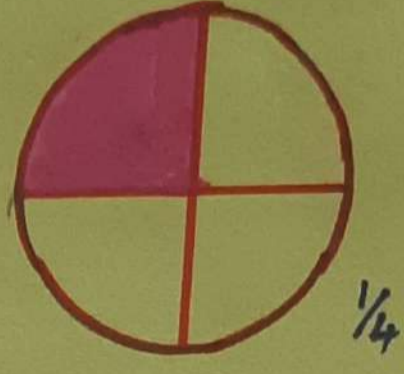
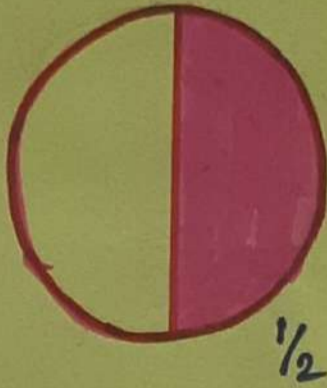
We sub-divide to quotients of emotion, love,
the arithmetic of skin and motive, proving that we live.

We multiply to one last courage, one last fear,
from calculus and algebras of heretofore to there.

We are the trig of arcs and angles, slides and planes,
worldwide and personal, that walk us upright where we've
lain.

Backwards, forwards, sideways, whatever the amount
we deduce from Laocoonic posit of instruct, we count.

ഭിന്നസംഖ്യകൾ

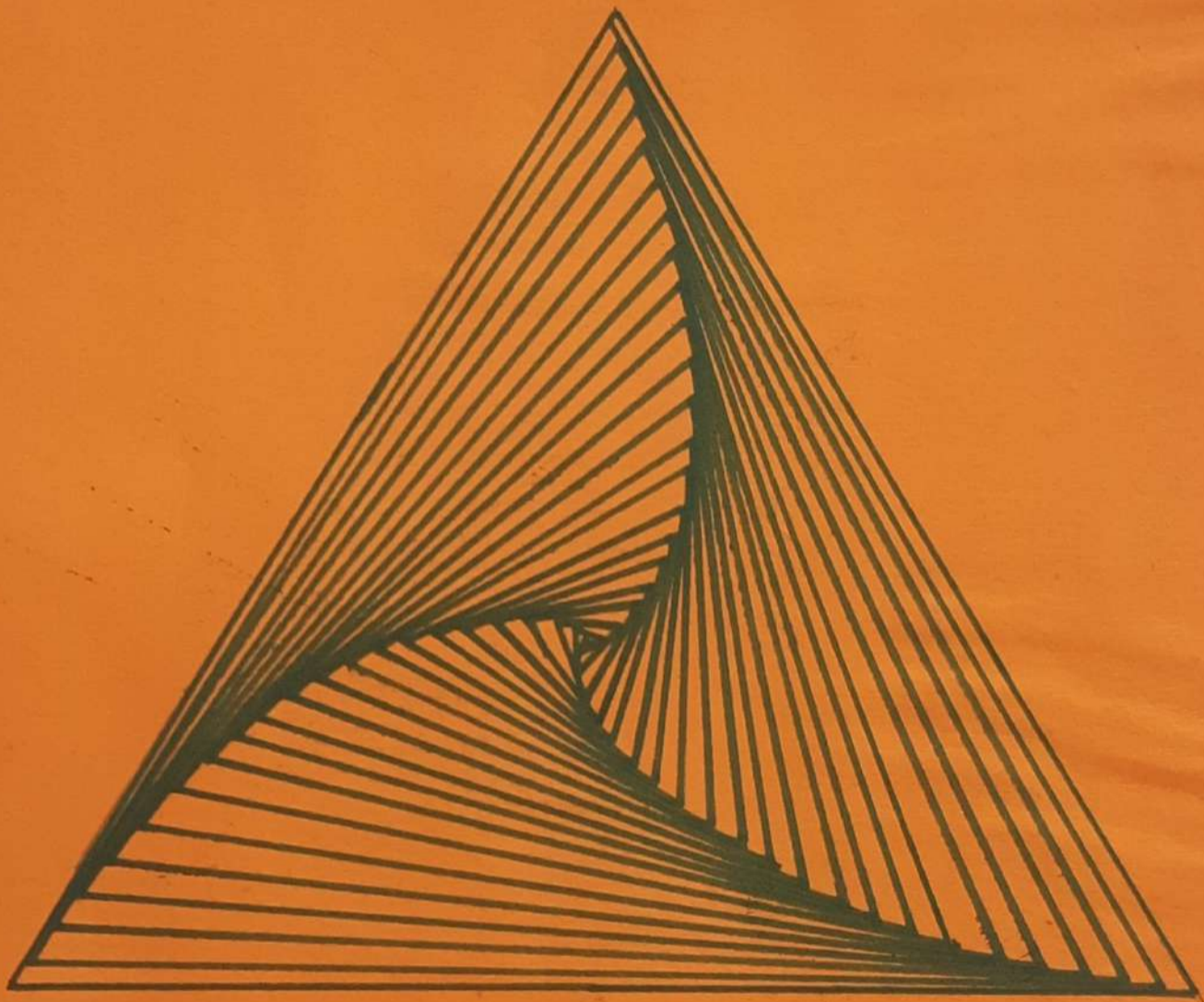


FATHER OF MATHEMATICS

The word "MATHEMATICS" is derived from the Greek word "MATHEMA" meaning knowledge. It includes the study of concepts such as number theory, algebra, mathematical analysis etc. Archimedes is known as the father of Mathematics. He lived between 287 BC - 212 BC. Syracuse, the Greek island of Sicily was his birthplace. Archimedes was serving the king Hiero II of Syracuse by solving mathematical problems and by developing interesting innovations for the king and his army.

Notable inventions of Archimedes include the calculation of measurement of a circle, the method of exhaustion to measure the areas of the shapes, the relationship between spheres and cylinders, uses of prime numbers, the topic of infinity, the concepts of conoids and spheroids, the quadrature of the parabola, the equilibrium of the planes, spirals, Archimedes' Principle and many more.

"The Fields Medal" is an award that is named after Archimedes as a tribute to his contributions to the field of science. He was killed by a Roman soldier in 212 BC as Sicily was a colony of Greeks that was invaded and attacked frequently by enemies.



MATH GAME

I

Step I : Think of a number

step II : Multiply it by 3.

step III : Add 6.

step IV : Divide by 3

step V : Subtract the number chosen in step I from your answer in step 4.

AND THE ANSWER IS 2

II

step I : Think of any number

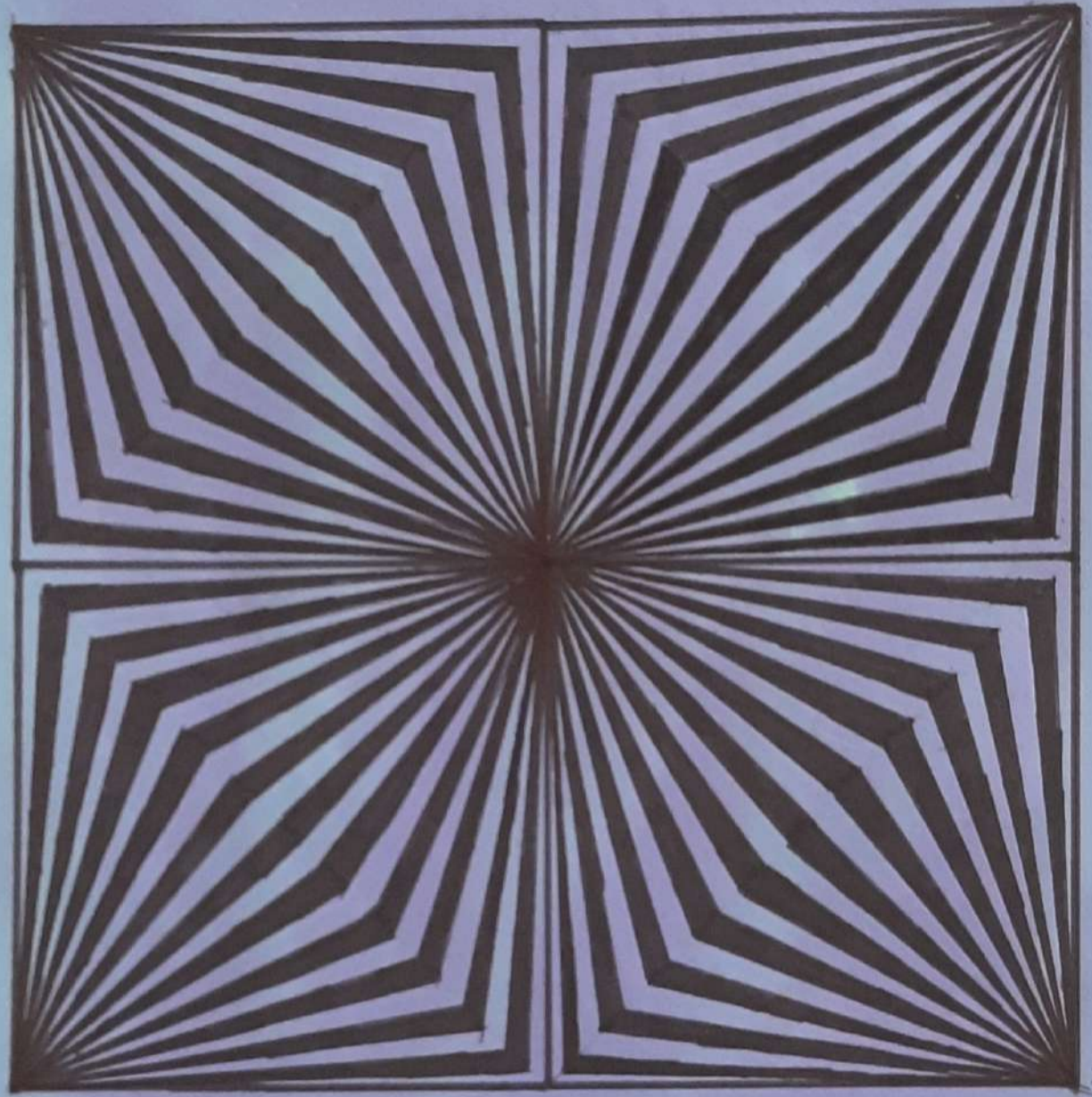
step II : Double it

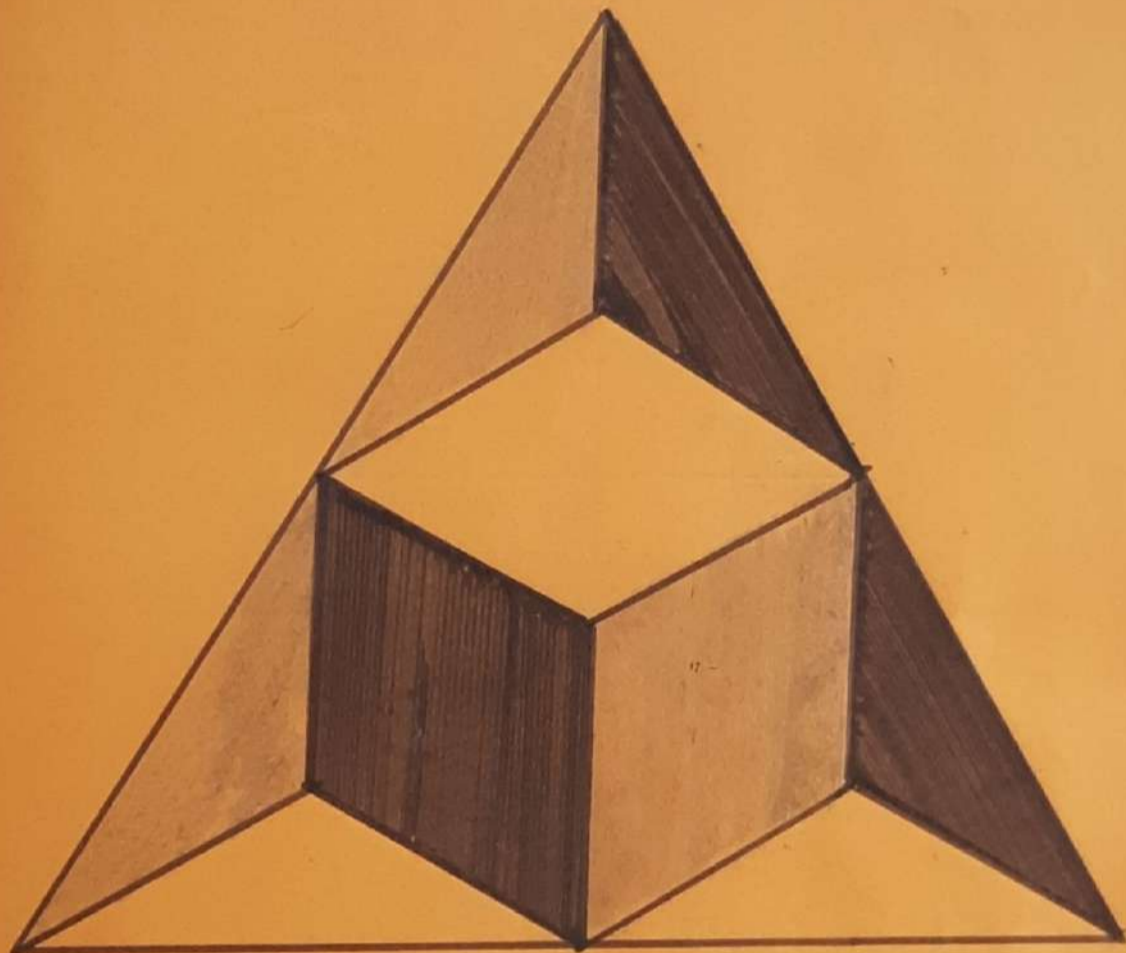
step III : Add 10

step IV : Halve it

step V : Take away the number you originally thought of in step 1.

And the answer is 5





ഗണിത ക്വിസ്

1. സൂര്യശേഷണം ആദ്യമായി പ്രവർത്തിച്ച ഗണിതശാസ്ത്രജ്ഞൻ ആരാണ്? **ലോർസ്**
2. 0 മുതൽ 99 വരെയുള്ള സംഖ്യകൾ എഴുതേണ്ടത് കേൾക്കുകയും കൂട്ടി തവണ ഉപയോഗിക്കുന്ന അക്കങ്ങൾ? **0**
3. ചരിത്രം രേഖപ്പെടുത്തിയിട്ടുള്ള ആദ്യത്തെ ഗണിതാധ്യാപകൻ ആരാണ്? **ഹിപ്പേഷ്യസ്**
4. ഭൂമിയുടെ ചുറ്റളവ് കണ്ടെത്തിയ ഗണിതശാസ്ത്രജ്ഞൻ ആരാണ്? **ഇറാണോസ്കനീസ്**
5. ഏതൊരു സംഖ്യയേയും 0 കൊണ്ട് ഹരിച്ചാൽ ഫലം അനന്തമായിരിക്കുമെന്ന് പറഞ്ഞ ശാസ്ത്രജ്ഞൻ ആരാണ്? **ഭാസ്കര II**
6. ഗണിത ശാസ്ത്രം എല്ലാ ശാസ്ത്രങ്ങളുടേയും അടിസ്ഥാനവും സേവകനും എന്ന് വിശേഷിപ്പിച്ചതാര്? **എരിക് ടാബിൾ മമ്പർ**
7. വില്യം ഷ്കീംസ്പിയറിന്റെ മർച്ചന്റ് ഓഫ് മെന്റിസ് എന്ന നാടകത്തില്യൂണിറ്റും കാനറപ്പട്ടണ സംഖ്യയേന്ത്? **3**
8. 'MATHEMATICS' എന്ന വാക്കിന്റെ ഉത്ഭവം 'MATHEMATICA' എന്ന ഗ്രീക്ക് പദത്തിൽ നിന്നാണ്. എന്നാൽ ഈ പദത്തിന്റെ അർത്ഥം? **പഠിച്ച കാര്യങ്ങൾ**
9. 'ഗുഗോൾ' എന്നറിയപ്പെടുന്ന സംഖ്യയെന്ത്?

Mathematics of Life

$$\text{LIFE} + \text{LOVE} = \text{HAPPY}$$










$$\text{LIFE} - \text{LOVE} = \text{SAD}$$

$$2 \text{ LIFE} = \text{HAPPY} + \text{SAD}$$

$$\therefore \text{LIFE} = \frac{\text{HAPPY} + \text{SAD}}{2}$$

$$\therefore \text{LIFE} = \frac{1}{2} \text{ HAPPY} + \frac{1}{2} \text{ SAD}$$

Math Puzzle

9	+	6	+	2	=	
+		+		+		+
5	+	8	+	8	=	
+		+		+		+
9	+	10	+	9	=	
=		=		=		=
	+		+		=	

MATH MAZE

FROM 1 TO 16



Importance Of Mathematics

Mathematics is a central of importance to modern society. It provides the vital underpinning of the knowledge economy. It is essential in the physical science, technology, business, financial services and many areas of ICT. It is also of growing importance in biology, medicine and many of the social sciences. Mathematics forms the basis of most scientific and industrial research and development. For most of us our awareness of the role of mathematics in modern society is as a user of the end products rather than from a direct involvement in the process.

Mathematics is the common language of many other disciplines. Students should learn this language to understand the concepts used in those disciplines. Students should connect their mathematical learning to appropriate real-world contexts. Maths problems help train your brain to think accurately and carefully. You will be able to think more logically, and to make better decisions in your life.

Interesting Facts about Maths

- 1) Every odd number has E in it.
eg: one, three, five...
- 2) 'Four' is the only number that has same number of letters as the number itself.
- 3) From Zero to Thousand, the only number which has the Letter A in it is
Thousand.
- 4) Forty (40) is the only number which has letters arranged in alphabetical order.
- 5) There is only one even prime number.
- 6) Zero is the only number that cannot be represented in Roman numerals.
- 7) The square root of 2 is called Pythagoras' constant.
- 8) Zero is an even number.
- 9) 6 is the smallest perfect number.
- 10) 2 and 5 are the only prime numbers that end with 2 and 5.
- 11) 7 is arithmetically unique.
- 12) 6 weeks = 10! seconds.

Activity

This is a crossword puzzle without 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 needed to work out the answers from information provided in the clues. A little trial and error solving may also be necessary. Additional clue: there are no zeros in the completed grid. (Bold black lines in the puzzle grid separate entries).

ACROSS

1. The first two digits are a prime number; the second two are the next lower prime number.
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.

Have fun!

Think of a number between 0 and 20.

Add 32 to it.

Multiply by 2.

Subtract 1.

Now close your eyes.



Its dark isn't it..

8	6	4	6	4
9	1	2		5
4	3	7	1	9
2	4	9	2	7
	3	8	9	8

Answer of Activity

PUZZLE

$$\text{Pink Circle} + \text{Pink Circle} = 10$$

$$\text{Pink Circle} \times \text{Green Square} + \text{Green Square} = 12$$

$$\text{Pink Circle} \times \text{Green Square} - \text{Red Triangle} \times \text{Pink Circle} = \text{Pink Circle}$$

$$\text{Red Triangle} = ?$$



PUZZLE

$$\text{Red Circle} + \text{Red Circle} = 10$$

$$\text{Red Circle} \times \text{Green Square} + \text{Green Square} = 12$$

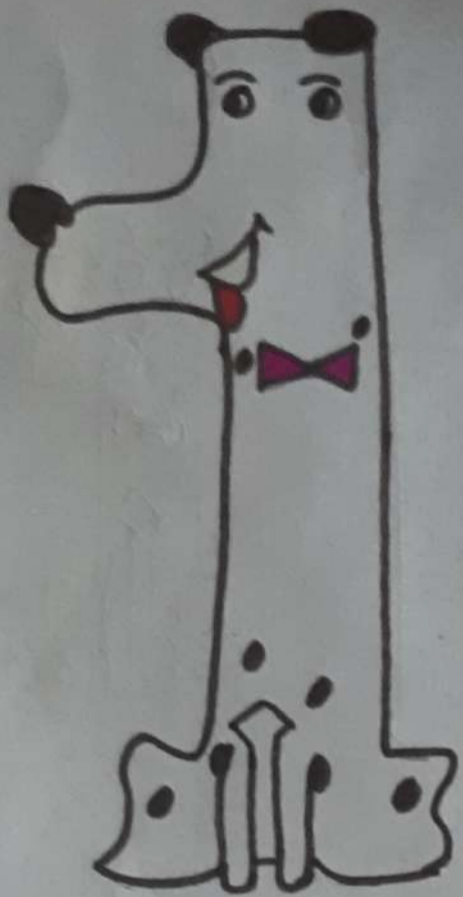
$$\text{Red Circle} \times \text{Green Square} - \text{Red Triangle} \times \text{Red Circle} = \text{Red Circle}$$



Answer

1







കുറുപ്പി

കണക്കു

തൊഴിൽ 30 വയസ്സ് ജോലി
 മേന്മ ജനിച്ചു.
 ജോലി തൊഴിൽ മേന്മ മേന്മിട്ടി
 പ്രാബല്യമുള്ള മേന്മ ജോലി
 ചില വയസ്സ് ???

ഒരു ജി. അതിൽ അടുത്തെ
 വിവരം ജി. വാങ്ങി പാൽ നൽകി.
 പിറ്റേ വിവരം അത് ജി. ജി.
 തിടർന്നു കെട്ടിയിരിക്കുന്നു. 10-10 വിവരം
 ജി. നിന്ന പാൽ നിന്നെ
 കിൽ ആ ജി. പാൽ
 പക്കി വിവരം പാൽ
 നിന്നെ ചില വിവരം
 പെട്ടെന്ന് ???

