



JAN-MAR MAGAZINE 2023-24

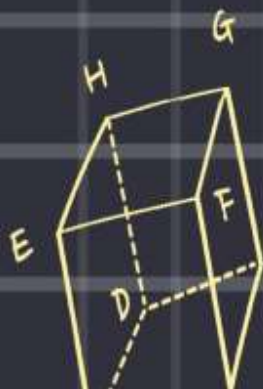
MATHEMATICS DEPARTMENT

- Mrs. Monika
- Mrs. Kriti
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BCM ARYA SCHOOL,
SINGLA-ENCLAVE,
LALTON-DOLON KHURD,
LUDHIANA

MATHEMATICS HUB

$$= \frac{cx}{20}$$

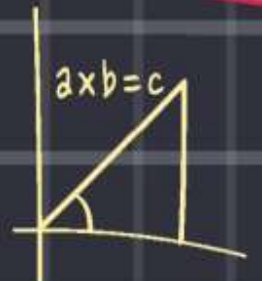


$$y = x^2$$

$$a(b \times c)$$

$$ab^2$$

$$f(x) = x -$$
$$y = x -$$
$$x = x -$$
$$y + 1$$



PREFACE



Almost everything that occurs in our environment, including rainbows and landscapes, has a mathematical explanation. I have attempted to elucidate the connections between mathematics and these two images.

Picture 1:

Near July of 2017, I took this photo near Kargil, Ladakh.

The photo shows us the stunning scenery that is in the area.

The elevation is roughly 2,676 meters on average. Nature was thought to be noisy "Euclidean geometry" prior to the development of fractal geometry. For example, a mountain is basically a roughened cone.

In fact, Paul Czanne's painting aphorism, "Everything in nature can be viewed in terms of cones, cylinders, and spheres," changed this perspective.

Benoit Mandelbort, the founder of fractal geometry and one of the most inventive mathematicians in history, is credited with coining the phrase "fractal" fewer than 30 years ago. His book, *The Fractal Geometry of Nature*, elucidated the principles that underlie this novel perspective. An elastic thread and a random vertical displacement applied to its middle point can be used to create a fractal mountain. Every new segment begins with this procedure being repeated recursively all the way to the middle. Realizing 3D mountains is more challenging than 2D. Certain methods rely on the midpoint displacement method, which can be used to hexagonal, square, or triangle grids.



Image 2: This photo was taken one evening in June 2017 in Kashmir. A rainbow is a type of meteorological phenomenon that arises from light reflecting, refracting, and dispersing in the sky.

On the interior of the major violet arc, however, we see a few pale violet arcs scattered with a few paler greenish bands. George Biddell Airy, a Cambridge mathematician, used Fresnel's wave theory to explain this.

P.S. Each hit is a mathematical shot; all we have to do is be sufficiently inquisitive to deduce and explain the appropriate mathematical rationale behind it.

By: Monika, Kriti & Preeti

MATHEMATICS BITES

1. COMMAS ARE INSERTED AFTER EACH PERIOD.
2. THE DIGITS IN THE SAME PERIOD ARE READ TOGETHER.
3. 1 CRORE = 100 LAKHS = 10 MILLIONS
4. 10 CRORES = 100 MILLIONS
5. 10 LAKHS = 1 MILLIONS
6. NO SYMBOL CAN REPEAT MORE THAN 3 TIMES.
7. THERE IS NO SYMBOL IN ROMAN SYSTEM TO REPRESENT 0
8. DIVISION BY 0 IS NOT DEFINED.
9. 1 MINUTE = 60 SECONDS
10. DIVISION IS USED FOR FINDING THE VALUE OF MANY OBJECTS
11. THE POINT WHERE THE 2 ARMS MEET IS CALLED VERTEX.
12. AREA CAN ONLY BE FOUND FOR FLAT SHAPES OR 2D SHAPES.
13. HALF PICTURE IN THE PICTOGRAPH SHOWS HALF NUMBER OF ITEMS

BY AAKANKSH BANSAL

RIDDLES

1. I AM AN ODD NUMBER. TAKE ONE LETTER AWAY AND I BECOME EVEN. WHAT NUMBER AM I?
2. WHY WAS THE MATH'S BOOK SAD?
3. WHAT IS A MATH'S TEACHER'S FAVOURITE TREE?
4. WHAT DO YOU CALL AN ANGLE THAT'S ADORABLE?
5. WHY WAS THE EQUAL SIGN SO HUMBLE?

ANSWER: -

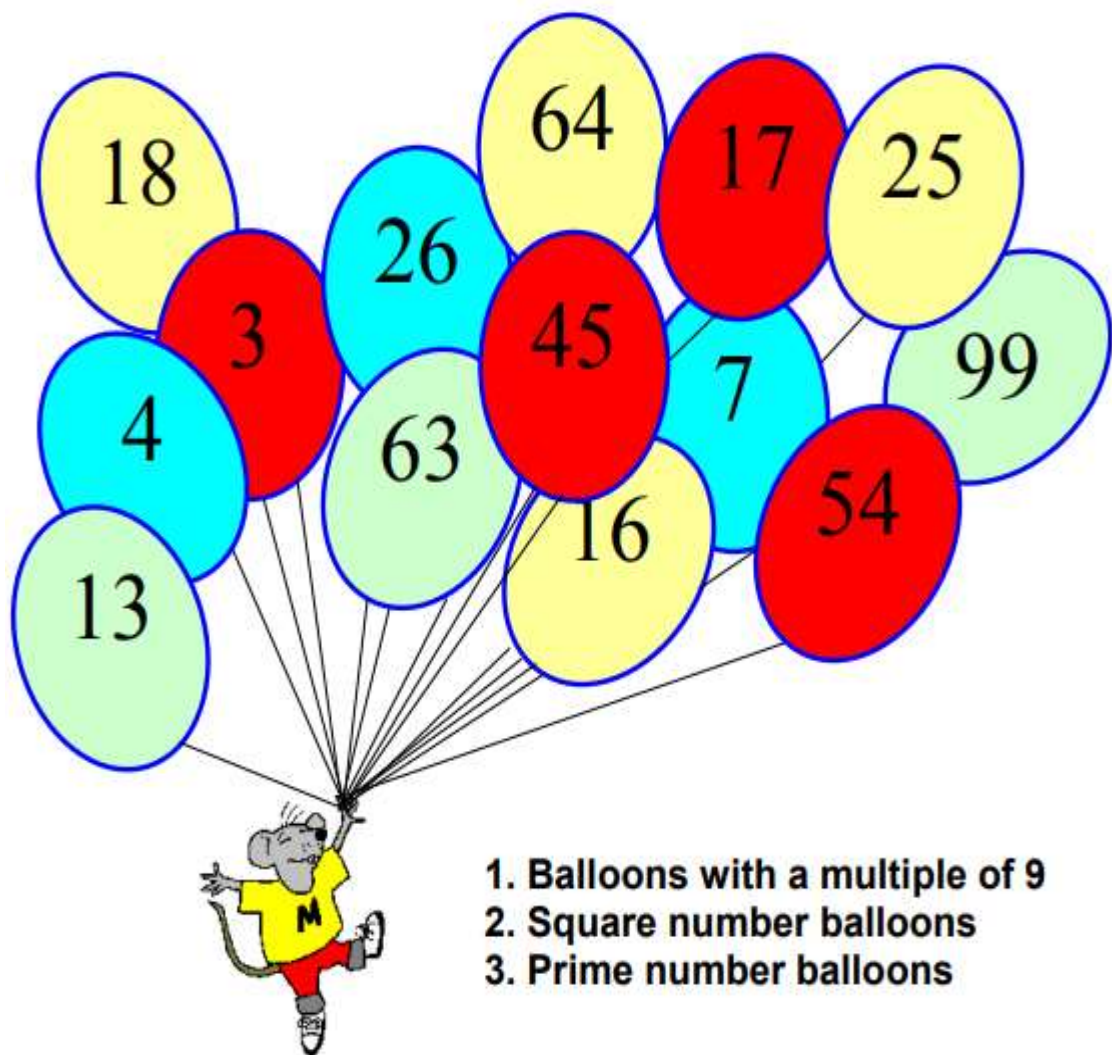
1. SEVEN (IF YOU REMOVE LETTER "S" IT BECOMES EVEN)
2. BECAUSE IT HAD TOO MANY PROBLEMS
3. GEOMETRY
4. ACUTE ANGLE
5. BECAUSE IT IS NOT GREATER OR LESSER THAN ANYONE

ANSH BHARDWAJ

PUZZLE TIME

BALLOON BURSTING

If a number in one of the balloons is included in the answers to the four problems below then that balloon will fly away.



WHICH BALLOON IS LEFT?

ANSWER: 26

KYNA MAHAJAN

SUDOKU

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

ANSWER:

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

ANSWER:

LATIKA

0!

Mathematics - an incredible story about numbers, full of exciting combinations, attractive ideas and thought-provoking questions. I believe that mathematics is powerful because it reveals its cards when you least expect them. I came a few days ago know 0 stories! This may not sound appealing to the math wizards reading this, but believe me, I totally felt it. I fell in love with math again with this simple but not so simple question. So this symbol that looks like an exclamation point is a mathematical factor that means multiplying a row declining natural numbers. For example $4! = 4*3*2*1=24$.

Now we take it as a fact that $0! = 1$, but the funny thing is how we can reduce the number to 1, which is already smaller if 1. So we all have to do a mental exercise to decipher it. So let's count what is $5!$, $4!$, $3!$, $2!$, $1!$

$$\text{So } 5! = 5*4*3*2*1 = 120$$

$$4! = 4*3*2*1 = 24$$

$$3! = 3*2*1 = 6$$

$$2! = 2*1 = 2$$

$$1! = 1$$

And now if we look closely $4!$ Nothing but $5! / 5$ and $3!$ Is $4! / 4$. To be continued $2! = 3! / 3$ and $1! = 2! / 2$ and skip one step forward we get $0!$ Is $1! / 1$ and yes, the result is 1. Don't get confused about multiplying numbers results 1? But that's math. Amazing!

AAYUSH