

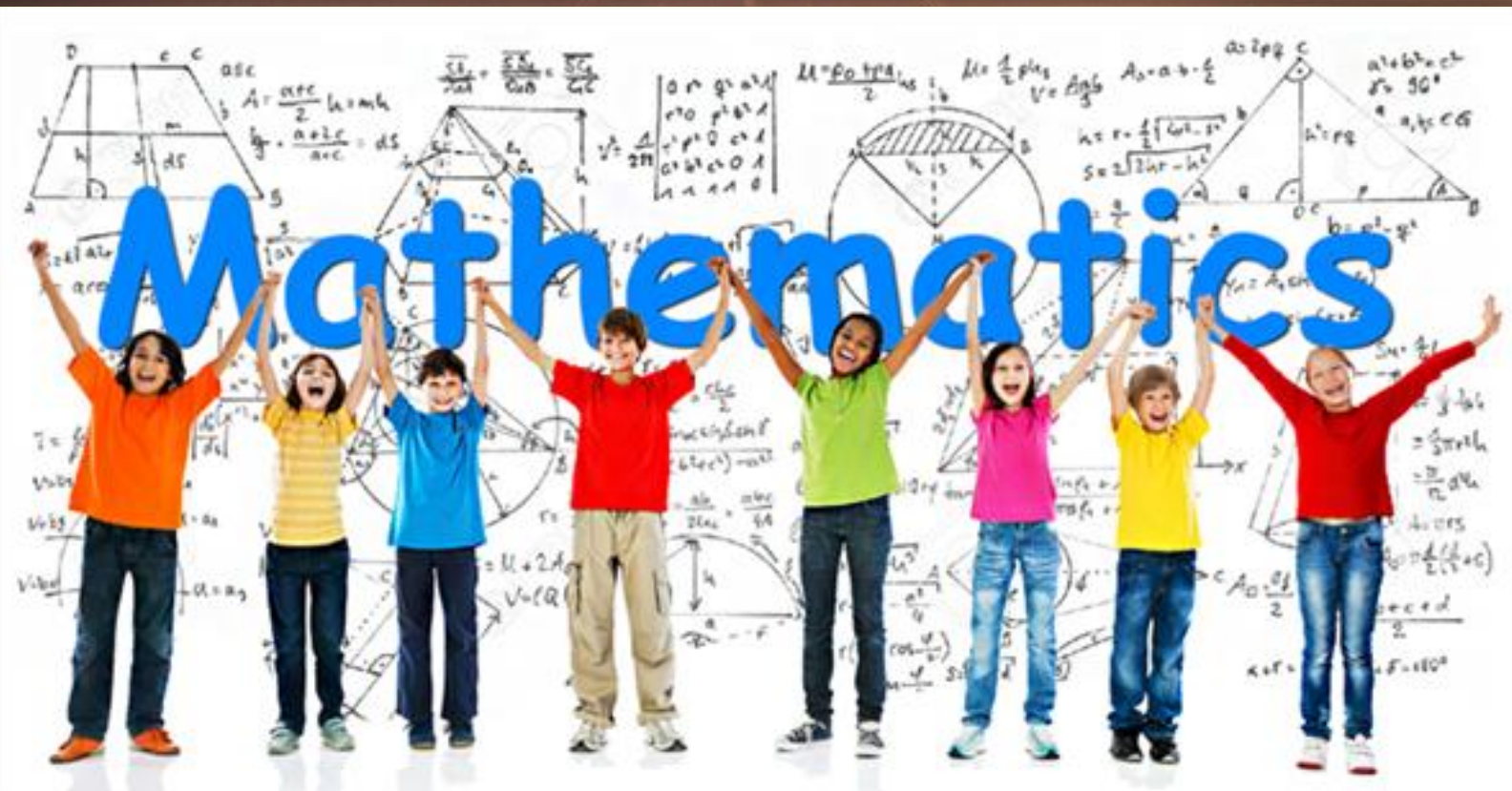
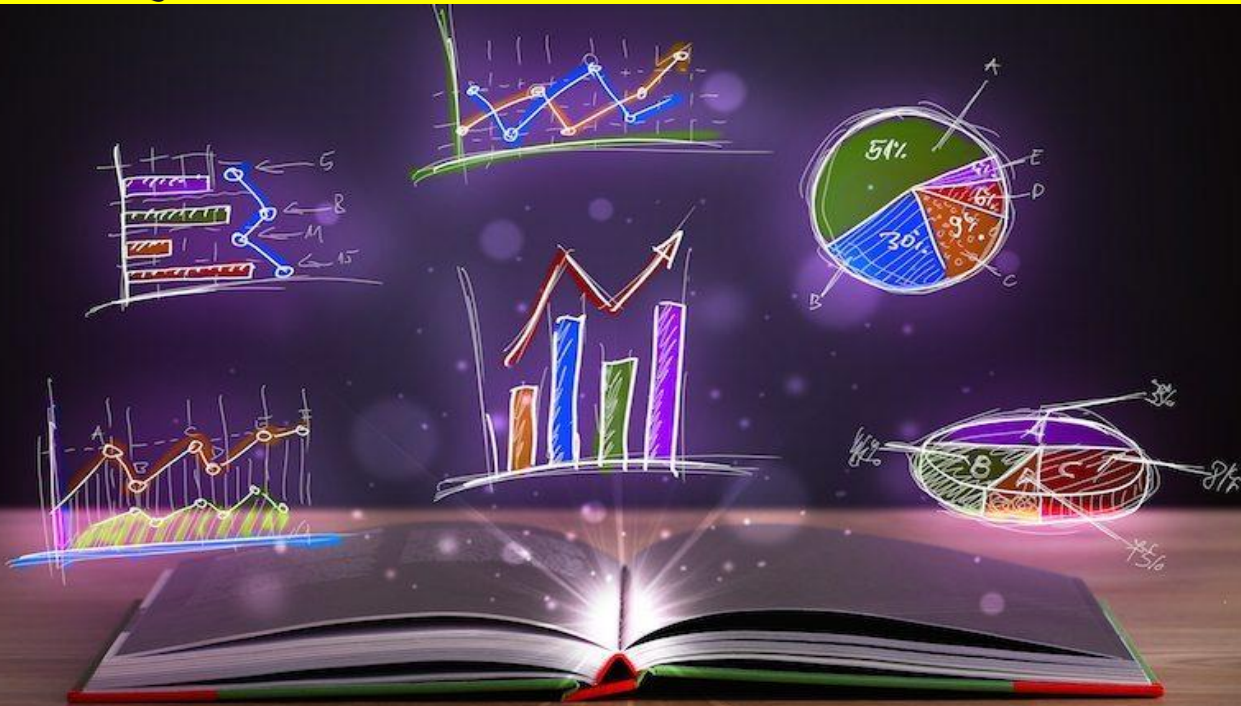
MATHLETE



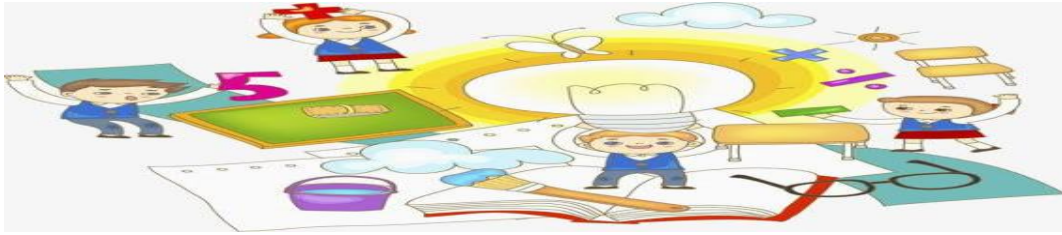
(अक्सर पूछा करते हैं.....)

Classes – 6th to 8th

Series
8



MATHEMATICAL LITERACY GROUP- CHANDIGARH



It is said that algebra as a branch of Mathematics began about 1550 BC, i.e. more than 3500 years ago, when people in Egypt started using symbols to denote unknown numbers.

Around 300 BC, use of letters to denote unknowns and forming expressions from them was quite common in India. Many great Indian mathematicians, Aryabhatt (born 476AD), Brahmagupta (born 598 AD), Mahavira (who lived around 850 AD) and Bhaskara II (born 1114 AD) and others, contributed a lot to the



study of algebra. They gave names such as *Beeja*, *Varna* etc. to unknowns and used first letters of colour names [e.g. *ka* from *kala*(black), *nee* from *neela* (blue)] to denote them. The Indian name for algebra, *Beejaganit*, dates back to these ancient Indian mathematicians.



The word 'algebra' is derived from the title of the book, 'Aljebarw'alalmugabalah', written about 825AD by an Arab mathematician, Mohammed Ibn Al Khowarizmi of Baghdad.

LINEAR EQUATIONS

- Equations in which degree of all variables is one are called linear equations
eg. $x + y + z = 9$, $4x + 3y = 9$ etc.
- Linear Equations in one variable are equations consisting of only one variable. e.g. $5x = 100$, $\frac{x}{2} = 4$ etc.

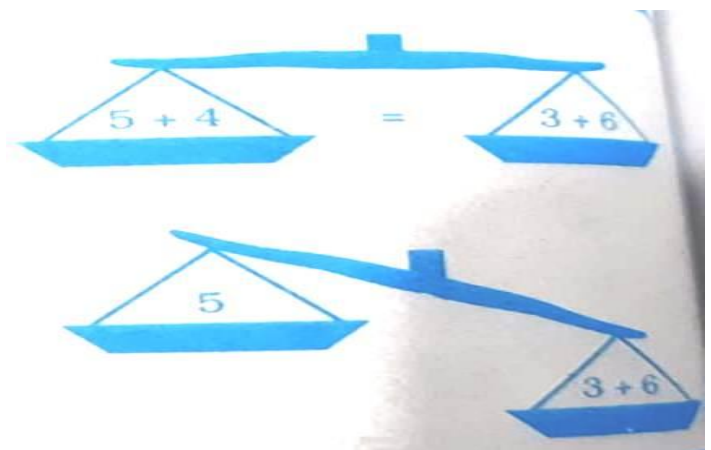
IS $x^2 + 2x = 5$ a linear equation ?

- The value of the variable that satisfies the given equation is called solution or root of the equation. Eg for equation $\frac{-4x}{16} = -4$, 16 is a solution.

Linear equation has only one root.

- The following rules can be applied while solving linear equations:
 - (1) Same number can be added or subtracted from both sides of equation.
 - (2) Same number can be multiplied or divided from both sides of equation.
 - (3) A term can be transposed to the other side of the equation with its sign changed.
 - (4) An equation is like a scale. The bit before the equals sign has the same value as the bit after the equals sign, so the scale is balanced.

When manipulating equations, you have to keep the scale balanced. You can't take 4 from one side and not from the other because then the two sides aren't equal.



The only way to keep the scale balanced is to always do the same thing to both sides.

MATHS IN ACTION

The dawn of 24th March, 2020 heralded an unprecedented announcement by Government of India as directed by the Prime Minister, Sh. Narendra Modi .

Due to the Pandemic, Covid 19, Nationwide Lockdown was to be adhered by all sections of society.



After a gap of 3 months, relaxation was given to open offices, banks and malls with strict adherence to covid protocols.



This was a relief as it provided an opportunity to the families to step into social World.

So Manu took his wife, mother ,father and daughter to the Mall for watching a movie and later eat dinner.

He spent Rs 1340 for buying tickets .The cost of 1 ticket was Rs 240 and service tax of Rs 140 was charged for 5 tickets.

- Q1) Represent the above situation mathematically if x represent number of tickets.
- Q2) Find number of tickets family purchase.
- Q3) Private cab company offers following rate.

It charges Rs. 33.75 per km up to 5km each Rs.9.15 for every additions kilometer. Family hi visit Luxury Hotel which was 12.5 km from Mall. Find total amount family has to pay?



Q4) Family ordered one Veg, one non-Veg dish, 2 curds, one salad, one plate deserts. Find total bill family paid?

Menu Card	
1 Salad	Rs. 60
1 Curd	Rs. 80
1 Veg. Dish	Rs. 240
1 Non-Veg. Dish	Rs. 340
1 Plate Dessert	Rs. 120
Service tax = 5%	
Discount = 25% if total cost exceeds Rs.1000	

Q5) Write any two ways by which family should order dinner to avail 25% discount(make bill excluding service tax)?

Do you know?



1. Linear Equations were invented by the famous Irish mathematician, Sir William Rowan Hamilton in the year 1843.
2. Linear algebra enjoys a close relationship with linear equations. Linear algebra highlights linear equations and the relationship between variables.

To know more about linear equations

Click on following links

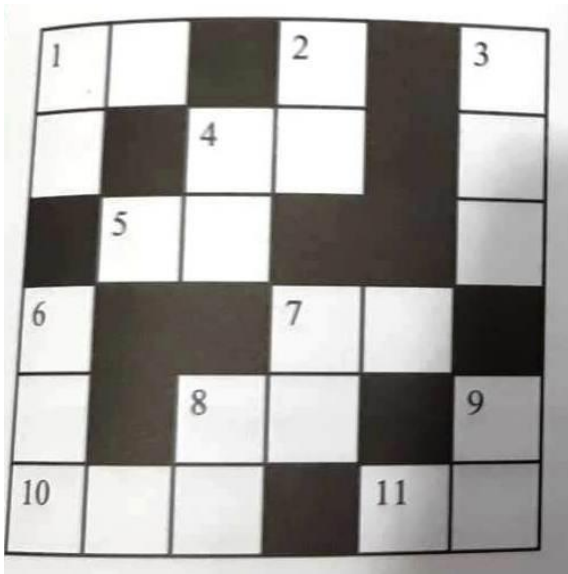
https://youtu.be/tHm3X_Ta_iE

<https://youtu.be/BIFBTctpUjg>



MATHS IS FUN!

Ready for some fun in class! Here's an algebra crossword puzzle that you will enjoy. Most of you must have solved a crossword too.



Across

1. $x + 5 = 20$
4. $p - 4 = 22$
5. $\frac{5x}{4} = 15$
7. $b - 17 = 17$
8. $2x = 98$
10. $\frac{c}{4} = 127$
11. $\frac{(p - 60)}{5} = 1$

Down

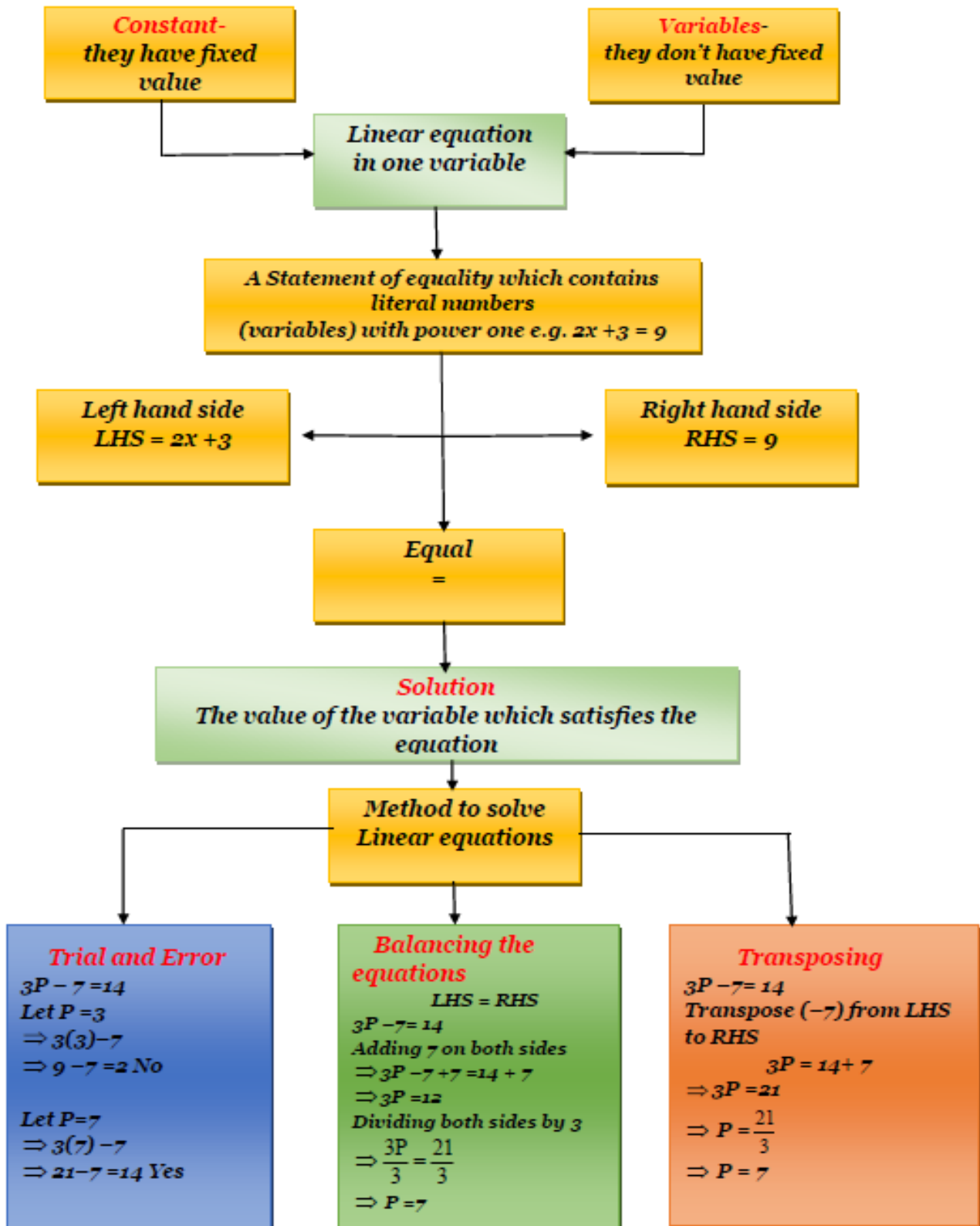
1. $\frac{x}{3} + 1 = 5$
2. $y + 2 = 18$
3. $4m = 800$
4. $\frac{y}{11} - 1 = 1$
6. $\frac{l}{5} = 71$
7. $2(x - 9) = 60$
8. $2y + 1 = 97$
9. $\frac{x}{3} + 5 = 22 + 8$

(HOTS)

- There are some rose flowers in a garden and some bees hovering around. if two bees land on each flower, one flower is left. If one bee lands on each flower, three bees are left. Find number of flowers and number of bees.

LET'S REVISE

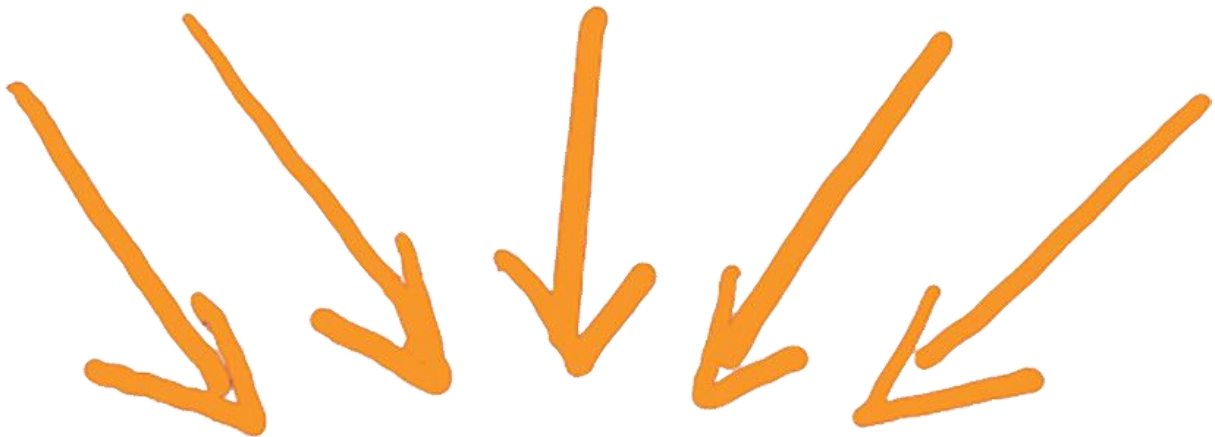
MIND MAP



TEST YOUR KNOWLEDGE

Following is the link of Google form, Click the link and answer the questions.

CLICK HERE



<https://forms.gle/HXVGzQqVgRxwBbf58>

ANSWER KEY

Maths in Action

Q.1. $1340 = 240x + 140$

Ans.2 $1200 = 240x$

$$x = \frac{1200}{240}$$

$$1340 - 140 = 240x$$

$$\frac{1200}{240} = x$$

$$x = 5$$

Q.3. Total charges = $33.75 \times 5 + 7.5 \times 9.15$

$$= 168.75 + 68.625$$

$$= 237.375$$

Q.4. Bill of food = $240 + 340 + 2 \times 80 + 60 + 120$

$$= 920$$

Service tax $\frac{5}{100} \times 920 = 46$

Total bill = $920 + 46 = \text{Rs. } 966$

Q.5. Any appropriate combination satisfying given condition should be considered

One of combination : One veg + one non-veg, 2 curds, 2 Salad, 2 curd, 1 plate dossas

$$= 240 + 340 + 2 \times 80 + 2 \times 60 + 120$$

$$= 1020$$

Maths is fun

Answer No. of flowers = 5, No. of bees = 8