

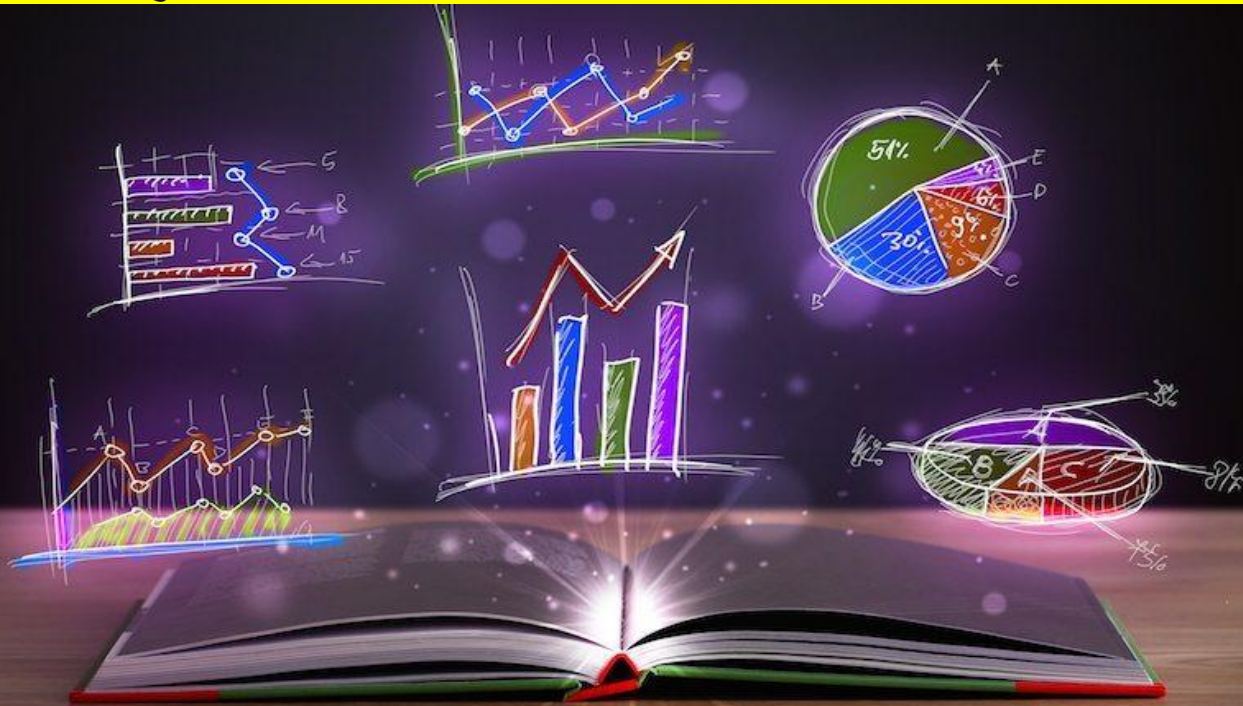
MATHLETE



(अक्सर पूछा करते हैं.....)

Classes – 6th to 8th

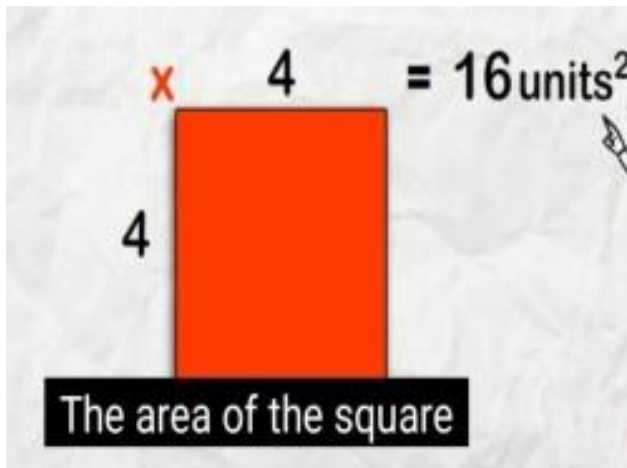
Series
6



MATHEMATICAL LITERACY GROUP- CHANDIGARH

SQUARES AND SQUARE ROOTS

Finding a square number is like finding the area of a square.



X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11											
12	12											

Each one is a PERFECT SQUARE

What is the side length?



Area = 9cm^2

Which number multiplied by itself?

When you have a square and know it's area.....You have to work BACKWARDS to find the side length.

There's a maths term for the number that gives us the square...

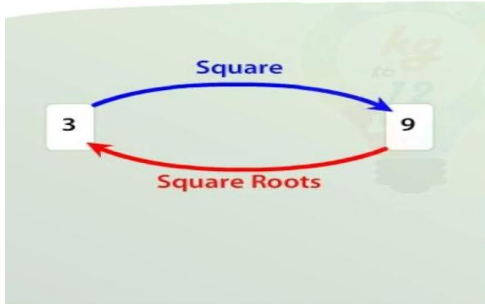
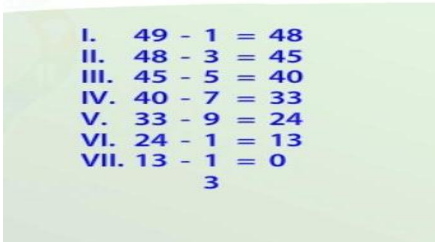
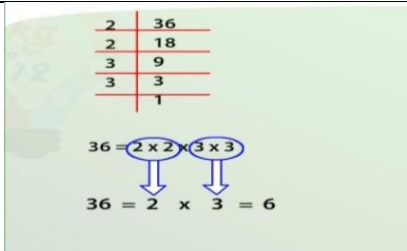
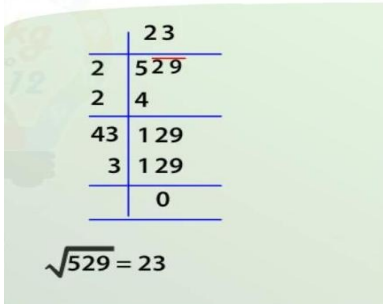


Area = 9cm^2 $3 \times 3 = 9$

It's called the SQUARE ROOT



SQUARES ROOTS

	<p>A square root goes the other way . It means , A value that can be multiplied by itself to give the original number. 3 squared is 9 , so a square root of 9 is 3.</p>
<p><i>There are three methods of finding square roots.</i></p>	
<p>(i) Repeated Subtraction Method In this method, we have to subtract only odd numbers .</p>	
<p>(ii) Prime Factorisation Method Let's find the square root of 36. When we factorise 36 , we get $2 \times 2 \times 3 \times 3$. By grouping this we can write it as 2×3 that is 6.</p>	
<p>(iii) Division Method Write the number above as quotient and below of the divisor. Add both the numbers of quotient and the numbers we found</p>	

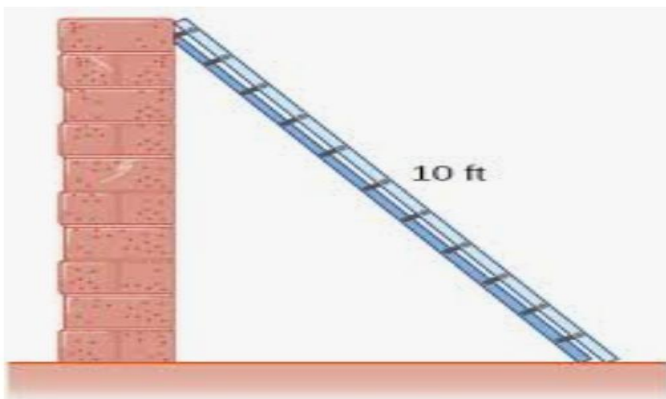
SQUARES AND SQUARE ROOTS IN OUR DAILY LIFE



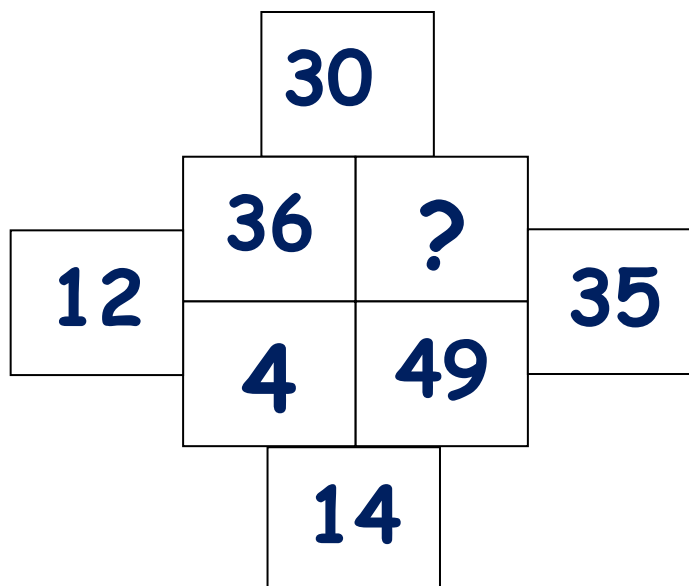
“Imagine a tree”.

“ I know the tree, but what is the root that produced it ?”

In this case the tree is “9” , and the root is “3” .



PUZZLE TIME



TASK 1 :

PLOT OF LAND

Ritu wants to buy a plot of land for her dream house. When she visits various sites , she finds a plot of land whose area is 1600 sq. feet best suitable to her requirement .



What is the length of the side of that plot of land if it is square in shape ?

Task 2 :

AIR CONDITIONER

Due to global warming , temperature is very high now a days especially during day time. Mr. Atul with his family visits a showroom to buy an air conditioner . None of them knows about the capacity of AC to be bought. The showroom owner suggests them as follows :



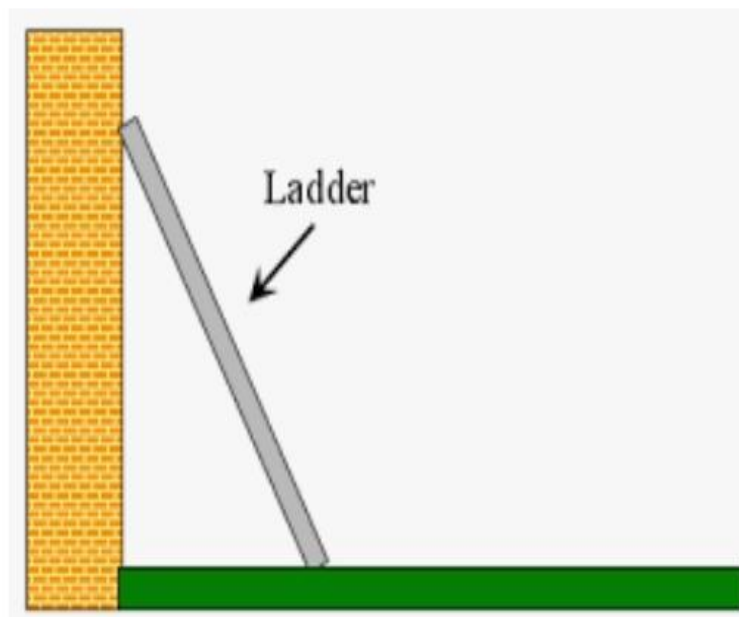
1.2 ton	Less than 120 sq ft
1.5 ton	Between 120 sq ft and 180 sq ft
2 ton	More than 180 sq ft

1. If the size of the room in which AC is to be installed is 12 ft x 12 ft , what is the area of the room ?
2. Based upon the information given above , help Mr. Atul's family to decide the capacity of the AC to be bought ?

TASK 3:

LADDER

Avi saw his father placing ladder against a wall 16 ft high , at a distance of 12 ft away from the wall. Help him to find the length of ladder ?



TASK 4 :

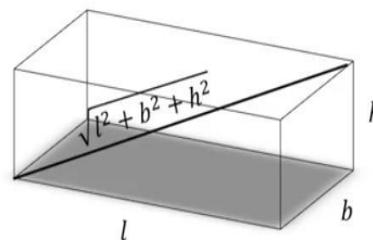
L.E.D.



Anshuman's father gifted him an L.E.D. for his room on his 15th birthday which was 32"(inch) diagonally. If the dimensions of the L.E.D. are in the ratio 16:9, find the approximate dimensions (in inches).

TASK 5

LONGEST PENCIL



Nirmit bought a new pencil box with the dimensions as length 15cm, breadth 5cm and height 3 cm as shown in the figure. Now, he wants to buy the longest pencil, he can put diagonally in that pencil box. Using the second figure, help him out to find the length of the pencil to be bought?

AMAZING FACTS

1. Palindrome number : number that reads the same backwards and forward , e.g.12421.
2. A 'jiffy ' is an actual unit of time for $1/100^{\text{th}}$ of a second.
3. October 14th is celebrated as World Maths Day.
4. The very first irrational number $\sqrt{2}$ is also known as Pythagoras' Constant.
5. 'Forty' is the only number that is spelt with the letters arranged in alphabetical order.

