Real numbers

ONE SHOT

Topics to be covered

1. HCF nad LCM
2. Prime, composite numbers
3. Relation between HCF and LCM for two positive integers
4. Co-prime number
5. word problem on HCF and LCM
6. Proving irrationality
7. Fundamental theorem of Arithmetics

Factors	Multiples

If HCF(98, 28)= m, and LCM(98, 28)=n, then the value of n-7m is

The greatest number which divides 70 and 125 leaving remainder 5 and 8 respictively is :

If two positive integers p and q can be expressed as $p = 18a^2b^4$ and $q = 20a^3b^2$, where a and b are prime numbers find LCM and HCF of p and q

If HCF of 65 and 117 is 65n-117, find the value of n

Prime number	Composite number

Show that the number 5x17x11+3x11 is a composite number

Two numbers are in the rato 4:5 and their HCF is 11. Find their LCM.

HCF of two numbers a and b is 5 and their LCM is 200. Find the product ab

The LCM of two numbers p and q (p>q) is 221.Find the value of 3p-q

Relationship between HCF and LCM of two positive integers

$$HCF(a,b) \times LCM(a,b) = axb$$

The HCF of two numbers is 27 and their LCM is 162 if one of the number is 54, find the other number.

The HCF of two numbers is 27 and their LCM is 162 if one of the number is 54, find the other number.

The LCM of two numbers is 9 times their HCF. The sum of LCM and HCF is 500. Find the HCF of two numbers.

HCF is a Factor of LCM
OR
Lcm is a Multiple of HCF

The ratio of HCF and LCM of the least composite number and the least prime number is:

Word problems on HCF and LCM

Six bells commence tolling together and toll at intervals of 2, 4, 6, 8 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together? (excluding the one at start)

February 14 is celebrated as International Book Giving Day and many countries in the world celebrate this day. Some people in India also started celebrating this day and donated the following number of books of various subjects to a public library:
History =96, science =240, Mathematics =336
These books have to be arranged in minimum number of stacks such that each stack contains books of only one subject and the number of books on each stack is the same.
Based on the above information, answer the following questions.
(i) How many books are arranged in each stack?
(ii) How many stacks are used to arrange all the Mathematics books?
(iii) Determine the total number of stacks that will be used for arranging all the books.
OR
(iii) If the thickness of each book of History, Science and Mathematics is 1.8 cm,2.2em and 25 cm respectively, then find the height of each stack of history, science and mathematics books.

Proving irrationality

Prove that $\sqrt{2}$ is an irrational number.

Prove that $7 - 3\sqrt{5}$ is an irrational number given that $\sqrt{5}$ is irratinal number.

Fundamental theorem of arithmetics

A number q is prime factorisation of 3^2x7^2xb, where b is a prime number other than 3 and 7

Asertion(A): q is definitely an odd number

Reason(R): 3^2x7^2 is an odd number