


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
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Factors	Multiples





**If $\text{HCF}(98, 28) = m$, and $\text{LCM}(98, 28) = n$,
then the value of $n - 7m$ is**









**The greatest number which divides 70
and 125 leaving remainder 5 and 8
respectively 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 $5 \times 17 \times 11 + 3 \times 11$
is a composite number**







Two numbers are in the ratio 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

$$\text{HCF}(a,b) \times \text{LCM}(a,b) = a \times b$$






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






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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:



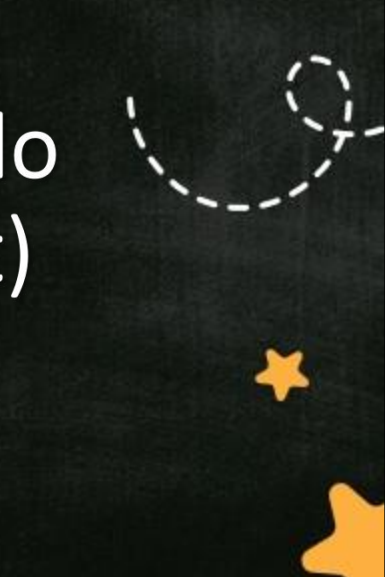


The background is a dark, textured surface resembling chalkboard paper. It is decorated with various school-related illustrations: two pencils (one orange, one blue) in the top left; a dashed white line curving from the top left towards the center; several yellow stars of different sizes scattered around; a white paint palette with three colored dots (red, blue, green) in the bottom right; a white ruler with black markings in the bottom right; and a pink pencil in the bottom right corner.

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:

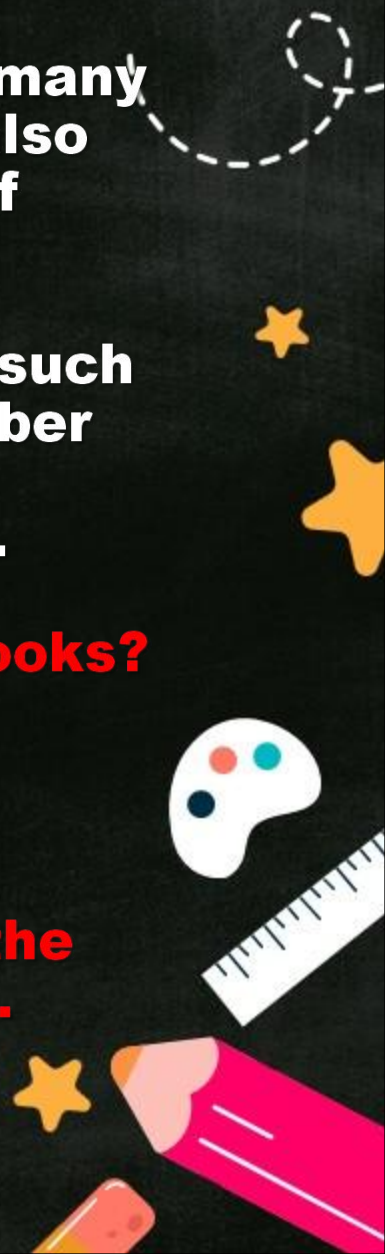
History =96, science =240, Mathematics =336

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.

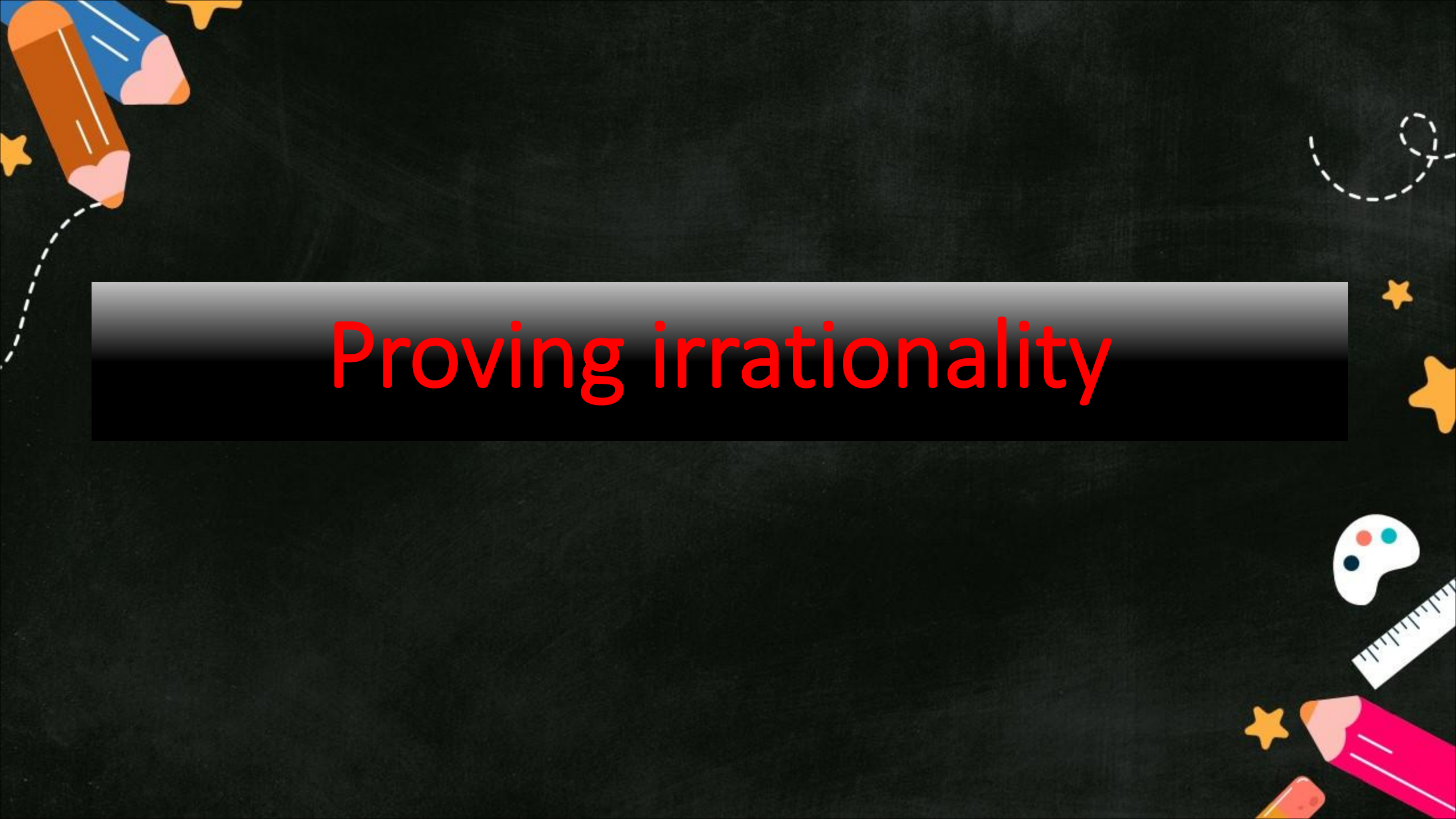
- (i) How many books are arranged in each stack?**
- (ii) How many stacks are used to arrange all the Mathematics books?**
- (iii) Determine the total number of stacks that will be used for arranging all the books.**

OR

- (iii) If the thickness of each book of History, Science and Mathematics is 1.8 cm, 2.2 cm and 2.5 cm respectively, then find the height of each stack of history, science and mathematics books.**
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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 irrational number.



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Fundamental theorem of arithmetics



A number q is prime factorisation of $3^2 \times 7^2 \times b$, where b is a prime number other than 3 and 7

Assertion(A): q is definitely an odd number

Reason(R): $3^2 \times 7^2$ is an odd number



