

Lowest Common Multiple (LCM)

Definition:

The LCM of two whole numbers a and b is the smallest whole number c that is divisible by both a and b .

Methods for finding $\text{LCM}(a, b)$

(I) Set intersection method –

depends on listing small multiples of a and b .

example: to find the $\text{LCM}(15, 24)$

multiples of 15: 15, 30, 45, 60, 75, 90, 105, 120.

multiples of 24: 24, 48, 72, 96, 120.

Therefore $\text{LCM}(15, 24) = 120$.

Example:

I'll demonstrate various methods for finding the LCM, such as listing multiples, prime factorization, and the ladder method. For instance, when finding the LCM of 8 and 12, we can list the multiples of each number (8: 8, 16, 24, 32, ...; 12: 12, 24, 36, ...) and identify the smallest common multiple (24).

Importance:

Understanding the LCM is crucial in adding and subtracting fractions with different denominators. By finding the LCM, learners can determine a common denominator and perform operations on fractions accurately. Additionally, the LCM is valuable in solving word problems that involve finding the least common multiple of multiple quantities or events.

Conclusion:

Join me in this empowering journey through algebra, and unlock the keys to mathematical success. With dedication and practice, you can master essential concepts like the GCF and LCM, gaining the skills and confidence needed to excel in math. Let's break down stereotypes and embrace the power of education together, inspiring positive change in our communities.