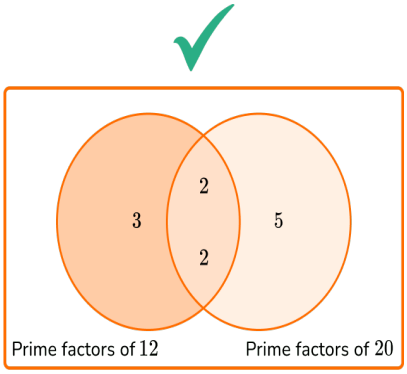

$\text{LCM} = 3 \times 2 \times 2 \times 5 = 60$

L.C.M. – Least Common Multiple

Description

The L.C.M. – Least Common Multiple

Have you ever needed to **find a number that is a multiple of two or more numbers**?
In math, this is called the **L.C.M.**, which means **Least Common Multiple**.

What is the L.C.M.?

The **least common multiple** of two or more numbers is the **smallest number, greater than zero**, that is a **multiple of all those numbers**.

In other words:

> The L.C.M. is the **first number you find in the list of common multiples**.

Example:

Let's find the L.C.M. of **4 and 6**.

1. Multiples of 4: 4, 8, 12, 16, 20, 24, 28...
2. Multiples of 6: 6, 12, 18, 24, 30...

The **common multiples** are: 12, 24...
? The smallest one is **12**
? So: **L.C.M.(4, 6) = 12**

What is it used for?

The L.C.M. is useful when we need to:

- Do **operations with fractions**, to find a **common denominator**
- Solve problems with **different repeating rhythms** (like two events happening at regular intervals)
- Organize objects or activities with **different timings**

How do you calculate the L.C.M.?

Method 1: Using multiples

- Write the multiples of each number
- Find the common ones
- Choose the smallest

? Good for small numbers.

Method 2: Using prime factorization

1. Break down each number into **prime factors**
2. Take **all the factors**, using the **highest exponent** for each
3. Multiply them together

Example:
Find the L.C.M. of 12 and 18

- $12 = 2^2 \times 3$
- $18 = 2 \times 3^2$
- L.C.M. = $2^2 \times 3^2$ = **36**

Difference between L.C.M. and G.C.D.

Abbreviation	Meaning	It is the...
L.C.M.	Least Common Multiple	smallest common multiple
G.C.D.	Greatest Common Divisor	largest common divisor

Quick exercise

Find the L.C.M. of 8 and 10:

1. Multiples of 8: 8, 16, 24, **32**, 40, 48, 56, 64, 72, 80...

2. Multiples of 10: 10, 20, 30, **40**, 50, 60, 70, 80...

? Answer: **40**

Category

1. Senza categoria

Date Created
2025/04/07
Author
lorenzo_wp