

Least Common Multiple

The _____ of two numbers is the _____ number that is a _____ of both the original numbers.

ex: We can find the LCM of 6 and 4 by listing multiples of each until we find a common multiple.

Multiples of 6:

Multiples of 4:

So, the LCM of 6 and 4 is _____.

Note that 6 and 4 are both factors of the LCM. So, we could just list multiples of 6 until we found one that has a factor of 4 (i.e. is divisible by 4).

Ex 1.

Find the LCM of 9 and 24 by listing.

Ex 2.

Find the LCM of 6 and 8 by listing.

Another way to find the LCM is to write out prime factorizations, then write the _____ number of each factor you see.

(Note: Don't confuse this with the GCF, where you write the least number of each factor.)

Ex 3.

Find the LCM of 26, 40, and 65 using prime factorization.

Ex 4.

Find the LCM of $9x^2y$ and $15xz^3$.

The LCM of denominators is called the _____.

ex: The LCD of $\frac{3}{4}$ and $\frac{1}{6}$ is the LCM of 4 and 6, which is 12. Now we can rewrite the fractions to have the same denominator:

$$\frac{3}{4} = \frac{3 \cdot 3}{4 \cdot 3} = \frac{9}{12}$$

$$\frac{1}{6} = \frac{1 \cdot 2}{6 \cdot 2} = \frac{2}{12}$$

This is useful for comparing fractions, as well as adding/subtracting fractions (coming soon).

Ex 5.

Write $\frac{5}{8}$ and $\frac{7}{12}$ as equivalent fractions with the least common denominator.

Ex 6.

Write $\frac{3}{4x}$ and $\frac{7}{6x^2}$ as equivalent rational expressions with the LCD.