

Factors divide evenly; multiples are products in a multiplication sequence.

Factors of 24

Factor pairs: 1×24 , 2×12 , 3×8 , 4×6 . All factors: 1, 2, 3, 4, 6, 8, 12, 24.

Multiples of 6

Multiply 6 by 1, 2, 3, 4... The sequence begins 6, 12, 18, 24, 30, 36, 42, 48. Multiples continue forever.

How to find factors

Start with $1 \times$ the number. Test divisors in order. Record both numbers in each factor pair. Stop when the factor pairs begin repeating.

How to find multiples

Multiply the number by consecutive whole numbers. To find common multiples, compare the lists until the same value appears.

GCF uses shared factors; LCM uses shared multiples.

GCF of 18 and 24

Factors of 18: 1, 2, 3, 6, 9, 18. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24.
Common factors: 1, 2, 3, 6. GCF = 6.

LCM of 18 and 24

Multiples of 18: 18, 36, 54, 72... Multiples of 24: 24, 48, 72... The first shared positive multiple is 72. LCM = 72.

When to use GCF

Use GCF to split objects into the largest equal groups, simplify fractions, or factor expressions.

When to use LCM

Use LCM to coordinate repeating schedules, add fractions with unlike denominators, or find when cycles meet.