The Ladder Method

Finding Least Common Multiple (LCM) and Greatest Common Factor (GCF)

Standard: 6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express $36 + 8$ as $4(9 + 2)$.

MA.4.a. Apply number theory concepts, including prime factorization and relatively prime numbers, to the solution of problems.

Rationale: When using this method, students will use their knowledge of prime factorization and structure of numbers to find common factors and common multiples. This method is more efficient and has less chance for error. The Ladder Method incorporates Standard of Mathematical Practice (SMP) 7, looks for and makes use of structure and SMP 8, expresses regularity in repeated reasoning.

Example: