Prime Factorization Calculator

Decompose an integer into a product of prime factors using bounded trial division. Negative values retain a factor of -1, making the displayed product reproduce the original input.

Formula: n = p1 * p2 * ... * pk

INPUTS AND EXAMPLE VALUES

Integer (absolute value 2 to 101^2): 360

CHECK THE DEFAULT EXAMPLE

Prime factors: 2 * 2 * 2 * 3 * 3 * 5

LIMITS AND CONVENTIONS

Zero and 1 have no prime-factor decomposition in this display.

Absolute values above 101^2 are excluded to bound interactive calculation time.

METHOD AND SOURCES

https://azhanmh.com/guides/tools/prime-factorization-calculator

OpenStax - Prealgebra 2e: numbers, fractions and percentages: https://openstax.org/books/prealgebra-2e/pages/1-introduction

Display precision is for reporting; keep unrounded values for later calculations. Verify units and conventions. This reference does not replace institution, employer or network rules.