

Prime Numbers in Maths - GeeksforGeeks

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Courses Tutorials Practice Jobs Number System and Arithmetic Algebra Set Theory Probability Statistics Geometry Calculus Logarithms Mensuration Matrices Trigonometry Mathematics Technical Scriptor 2026 Explore Basic Arithmetic Numbers in Maths Arithmetic Operations Fractions in Maths Decimals in Maths Exponents Percentage Algebra Variable in Maths Polynomials Coefficient Algebraic Identities Properties of Algebraic Operations Geometry Lines and Angles Geometric Shapes in Maths Area and Perimeter of Shapes | Formula and Examples Surface Areas and Volumes Points, Lines and Planes Coordinate Axes and Coordinate Planes in 3D space Trigonometry & Vector Algebra Trigonometric Ratios Trigonometric Equations | Definition, Examples & How to Solve Trigonometric Identities Trigonometric Functions Inverse Trigonometric Functions Inverse Trigonometric Identities Calculus Introduction to Differential Calculus Limits in Calculus Continuity of Functions Differentiation Differentiability of Functions Integration Probability and Statistics Basic Concepts of Probability Bayes' Theorem Probability Distribution - Function, Formula, Table Descriptive Statistic What is Inferential Statistics? Measures of Central Tendency in Statistics Set Theory Practice NCERT Solutions for Class 8 to 12 RD Sharma Class 8 Solutions for Maths: Chapter Wise PDF RD Sharma Class 9 Solutions RD Sharma Class 10 Solutions RD Sharma Class 11 Solutions for Maths RD Sharma Class 12 Solutions for Maths Three 90 Challenge 90% Refund Prime Numbers in Maths Last Updated : 28 Jan, 2026 A prime number is a natural number greater than 1 that has exactly two positive divisors: 1 and itself. Numbers that have more than two divisors are called composite numbers The number 1 is neither a prime nor a composite. All primes are odd, except for 2. Mathematically, prime numbers are defined as: Formally, a number 'p' is prime if: p is a natural number ($p \geq 2$). p has no divisors other than 1 and p itself. That is, if p can be written as $p = a \times b$, then $a = 1$ and $b = p$, or vice versa. Prime Numbers 1 to 100 There are 25 prime numbers between 1 to 100. The image added below shows the prime numbers from 1 to 100. List of Prime numbers between 1 to 100 Smallest and Largest Prime Number The smallest prime number is 2. It is unique because it's the only even prime number. There is no largest prime number, as prime numbers continue infinitely. The largest prime number discovered as of 2025 is ($2^{136,279,841} - 1$), which has 41,024,320 digits. Properties of Prime Numbers Prime numbers have some properties which are listed as follows: A Prime number is always a natural number i.e., a number greater than 1. There are infinitely many prime numbers. This was proved by Euclid around 300 BC. Every positive integer greater than 1 can be written as a product of prime numbers uniquely, up to the order of the factors. This is known as the Fundamental Theorem of Arithmetic. Related Concepts Prime vs Composite Prime factorization Coprime Numbers How to Find Prime Numbers? Finding Prime using Sieve of Eratosthenes Algorithm to check for Prime Number Applications Interesting Facts Theorems Euclid's Division Lemma Wilson's Theorem Fermat's Little Theorem For Programmers Check for Prime Number Prime Factor of a Number Largest Prime Factor Next Prime Number Check if Two Numbers are Co-Prime or not Check for Strong Prime Closest Prime Sieve of Eratosthenes Nth Prime Number Program to print prime numbers from 1 to N. Segmented Sieve Also Check: Prime Numbers Worksheet Solved Examples of Prime Numbers Example 1: Determine whether 37 is a prime number or not. Solution: As a prime number is a positive integer greater than 1 that has no positive integer divisors other than 1 and itself. As $37 = 1 \times 37$, Therefore, 37 has no divisors other than 1 and itself, and it is a prime number. So, 37 is a prime number. Example 2: Find all the prime numbers between 20 and 40. Solution: The prime numbers between 20 and 40 are 23, 29, and 37. Example 3: Is 19 a Prime Number? Solution: Let us write the given number in the form of $6n \pm 1$. $6(3) + 1 = 18 + 1 = 19$ Therefore, 19 is a prime number Example 4: Which is the greatest prime number between 1 to 10? Solution: There are 4 prime numbers between 1 and 10 and the greatest prime number between 1 and 10 is 7. Example 5: Why is 20, not a prime number? Solution: The factors of 20 are 1, 2, 4, 5, 10, and 20. Thus, 20 has more than two factors. Since the number of factors of 20 is more than two numbers, it is NOT a prime number. Suggested Quiz 0 Questions Quiz Completed Successfully Your Score : 0 / 0 Accuracy : 0 % Comment Article Tags: Article Tags: Mathematics School Learning Prime Number Maths