## Introduction

Prime numbers are natural numbers with a special property. They play an important role in many areas of mathematics and computer science. For example, they are indispensable for many procedures used in cryptography. Prime numbers are also extremely useful in many areas of mathematics, as we will see below.

In this lesson, you will learn what is mathematically understood by the expression “prime number,” what properties these numbers have, and how to check whether a given number is a prime number.

7.1 Definition and Properties of Prime Numbers ∈ ℕA natural number p ∈ ℕa = p is called a prime number if p ≠≠ 1 is 1, and if it follows from a|p for a that a = 1 or .

In other words: A prime number is a natural number , which is only divisible by 1 and itself.

All other numbers, that is, numbers that are not prime numbers, are called composite numbers.