

# typst-theorems

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<https://github.com/sahasatvik/typst-theorems>

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## 1. Introduction

This document only includes the examples given in the manual; each one of these has been explained in full detail there.

## 2. Feature demonstration

**Theorem 2.1** (Euclid): There are infinitely many primes.

**Lemma 2.2:** If  $n$  divides both  $x$  and  $y$ , it also divides  $x - y$ .

**Corollary 2.2.1:** If  $n$  divides two consecutive natural numbers, then  $n = 1$ .

### 2.1. Suppressing numbering

*Example :* The numbers 2, 3, and 17 are prime.

**Lemma :** The square of any even number is divisible by 4.

**Lemma 2.1.1:** The square of any odd number is one more than a multiple of 4.

**Lemma 42:** The square of any natural number cannot be two more than a multiple of 4.

## 2.2. Limiting depth

**Definition 2.1** (Prime numbers): A natural number is called a *prime number* if it is greater than 1 and cannot be written as the product of two smaller natural numbers.

**Definition 2.2** (Composite numbers): A natural number is called a *composite number* if it is greater than 1 and not prime.

*Example 2.2.0.0.1:* The numbers 4, 6, and 42 are composite.

## 2.3. Custom formatting

**Lemma 2.3.1:** All even natural numbers greater than 2 are composite.

PROOF : Every even natural number  $n$  can be written as the product of the natural numbers 2 and  $n/2$ . When  $n > 2$ , both of these are smaller than 2 itself.  $\square$

**Notation (I)** : The variable  $p$  is reserved for prime numbers.

**Notation (II) for Reals:** The variable  $x$  is reserved for real numbers.

**Lem. 2.3.2:** All multiples of 3 greater than 3 are composite.

## 2.4. Labels and references

Recall that there are infinitely many prime numbers via [Theorem 2.1](#).

You can reference future environments too, like [Cor. 2.3.2.1](#).

## 2.5. Overriding base

*Remark 2.5.1:* There are infinitely many composite numbers.

**Corollary 2.3.2.1:** All primes greater than 2 are odd.

*Remark 2.3.2.1.1:* Two is a *lone prime*.