## Introduction

In the first learning cycle of this lesson we will show how and why division with remainder works, define what we mean by the greatest common divisor of two numbers, and present a procedure to calculate it in the form of the Euclidean algorithm. Some of you will already be familiar with parts of these facts from school lessons in a highly simplified form.

In addition, we will revisit the proof of the fundamental theorem of arithmetic. As an introduction to this, we will present, among other things, a particularly important extension of the Euclidean algorithm.

The contents of this lesson are of a very practical nature. They are used in many areas of computer science and mathematics and play a major role in cryptography, for example.