## 8.1 The Euclidean Algorithm

With the Euclidean algorithm the greatest common divisor of two natural numbers can be determined. Furthermore, it is applied in the proof of the fundamental theorem of arithmetic. The method is—just like Euclid’s theorem—named after the famous Greek mathematician Euclid of Alexandria. Let ≤ r < |a|a, b ∈ ℤ uniquely exist. with a ≠ 0. Then certain numbers q ∈ ℤ and r ∈ ℕ0 with b = qa + r and 0