### Theorem: Multiplicity of Euler’s φ Function

Let m, n ∈ ℕ be two coprime natural numbers. Then it applies that:φ m·n = φ m ·φ n

#### Example: Multiplicity of the Euler φ function

421812 = 6 · = 2 · 97. The numbers 2 and 9 are coprime. Thus φ(18) = φ(2)φ(42) = φ(6) · φ(9) = 1 · 6 = · φ(7) = 2 · 6 6=.

. The numbers 6 and 7 are coprime. Thus

. For x ∈ ℝ we define the Gaussian bracket x : = max:ℝk ∈ Zℤk through:≤ x