

Student: Jeferson Morales Mariciano <jmorale@ethz.ch>

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## Assignment 7

Due date: Thursday, 31 October 2024, 23:59

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### Exercise 7.3, Properties of Greatest Common Divisors and Least Common Multiple (★) (8 Points)

Prove or disprove the following properties. Only use the definitions of ideals, gcd and lcm, and don't use the results from Section 4.3.3 in the lecture.

a) For all positive integers  $a, b$

$$(a) \cup (b) = (\gcd(a, b)).$$

b) For all positive integers  $a, b$

$$(a) \cap (b) = (\text{lcm}(a, b)).$$