

# Lesson 6 Problem 4 Solution

Konstantin Miagkov

November 19, 2017

**Problem 4.**

No. Let  $d$  be the GCD of  $a$  and  $b$ , and suppose  $a > b$ . Since  $d$  is a divisor of  $a$  and  $b$ , it is also a divisor of  $a - b$ . Then  $a - b = kd$  for some nonzero integer  $k$ . It is nonzero since  $a - b$  is not zero. But then  $k \geq 1$ , which means  $a - b = kd \geq d$ .