

# Problem Set 3

February 9, 2026

**Problem 1.** Let  $a$ ,  $b$ , and  $c$  be positive integers. Suppose that  $\gcd(a, b) = 1$  and suppose further that  $a$  divides  $bc$ . Prove that  $a$  divides  $c$ .

**Problem 2.** Find the factorization for 36 and 50. Then use it to calculate  $\gcd(36, 50)$ .