Worksheet 2

1. Prove that if $\gcd(a, b) \neq 1$, then $\exists$ a prime p such that $p \mid a$ and $p \mid b$.
2. Write down the multiplication table for $\mathbb{Z}/6\mathbb{Z}$.
3. Let $f(x) = x^2 + 101x + 1532$. Compute the remainder of $f(10003)$ on division by 5.