Problem Set 4

September 30, 2024

Problem 1. Find the factorization for 76. Then use the factorization to find $\mathrm{ord}_2(76)$ and $\mathrm{ord}_5(76)$.

Problem 2. Suppose that

$$ac \equiv bc \pmod{m}$$

and also **assume** that $\gcd(c, m) = 1$. Prove that

$$a \equiv b \pmod{m}.$$