

Number Theory Quiz VI

RDB

June 30, 2022

Problem 1 For which integers a does the equation $x^2 \equiv a \pmod{13}$ have a solution?

Problem 2 Does there exist an integer x such that $x^2 \equiv 52 \pmod{53}$? [Hint: 53 is prime and $52 \equiv -1 \pmod{53}$.]