PROBLEM I Find the number of all the intergal solution of equations as follow:

1. $x^2 \equiv 3766 \pmod{5987}$;
2. $x^2 \equiv 3149 \pmod{5987}$. Where 5987 is a prime.

PROBLEM II

1. When the equation has solutions, apply theorm 1 in section 2 to find the solution of $x^2 \equiv a \pmod{p}, p = 4m + 3$.
2. When the equation has solutions, apply theorem 1 in section 2 and section 3 to find the solution of $x^2 \equiv a \pmod{p}, p = 8m + 5$.
3. If the equation $x^2 \equiv a \pmod{p}, p = 8m + 1$ has solutions, and N is non quadratic residue. Give one way to solve the equation ablow.

PROBLEM III Solve the equation $\begin{cases} x^2 & \equiv 59 \pmod{125} \\ x^2 & \equiv 41 \pmod{64} \end{cases}$. PROBLEM IV

1. Prove equation $x^2 \equiv 1 \pmod{m}$ and $(x+1)(x-1) \equiv 0 \pmod{m}$ are equal.
2. Apply 1 to give one way of finding all the solutions of $x^2 \equiv 1 \pmod{m}$.