

Name:

**Problem 1:** Let  $\left(\frac{a}{p}\right)$  denote the Legendre symbol.  
*Explain in one sentence what it means to write*

$$\left(\frac{3}{5}\right) = -1.$$

**Solution:** It means that 3 is not a quadratic residue modulo 5, or in other words that  $x^2 \equiv 3 \pmod{5}$  does not have a solution.