The motivation for our thesis is to describe generalized of Phytagorean triples. We convert this problem into the problem of finding a solution of the equation $|x^2+Dy^2| = z^2$. The goal of this thesis is to prove in detail the structure and the number of solutions of the equation $|x^2 + Dy^2| = z^2$ for $-D \equiv 2,3 \pmod 4$ and square-free. The proofs of lemmas are proved by using properties of ideal class group of number field $\mathbb{Q}[\sqrt{-D}]$. We first prove a lemma that gives us the necessary conditions for the existence of a solution. We describe the connection between uniqueness, respectively ambiguity of the solution and the choice of D. The most important step of the proof is to express the solution in a special form. We also give examples of structure of ideal class group of various number fields.