Many industrial optimization problems can be translated to MaxSAT. Although the general problem is NP hard, like SAT, many practical problems may be solved using modern MaxSAT solvers. In this paper we present several algorithms specially designed to deal with industrial or real problems. All of them are based on the idea of solving MaxSAT through successive calls to a SAT solver. We show that this SAT-based technique is efficient in solving industrial problems. In fact, all state-of-the-art MaxSAT solvers that perform well in industrial instances are based on this technique. In particular, our solvers won the 2009 partial MaxSAT and the 2011 weighted partial MaxSAT industrial categories of the MaxSAT evaluation. We prove the correctness of all our algorithms. We also present a complete experimental study comparing the performance of our algorithms with latest MaxSAT solvers.